LINE LINK AND SUBSCRIBER SENDER LINK AND CONTROLLERS

NUMBER	TITLE
SC 101-1	RECEIVING DIAL TONE
SC 102-1	SEQUENCE CHARTS FOR CONTROLLER TROUBLE INDICATOR
OS 101-1	LINE CIRCUIT EQUIPMENT, RECEIVING DIAL TONE, PARTY TEST, COIN TEST, SENDER MONITOR, TOLL DIVERSION
OS 102-1	CONTROLLER SELECTION - A AND B START CIRCUIT
OS 103-1	HORIZONTAL GROUP SELECTION - MATE OR HOME CONTROLLER
OS 104-1	VERTICAL SELECTION
OS 105-1	LINE SELECTION AND IDENTIFICATION - WITH REVERSE PREFERENCE
OS 106-1	INDICATING A BUSY SSL TO THE LL'S. DA LEAD DISTRIBUTION AND SSL MAKE BUSY FEATURE
OS 107-1	TESTING FOR IDLE AND BUSY LINKS
OS 108-1	ROTATION OF DIST. GRP. PREFERENCE - SELECTING A DIST. GRP. AND SEIZURE OF A SUB. SDR. LINK AND CONT.
OS 108-2	DISTRICT GROUP SELECTION AND OPERATING LINE LINK FRAME SELECT MAGNETS
OS 109-1	SENDER GROUP TEST
OS 110-1	INDICATING WHICH JUNCTORS ARE IDLE IN A SELECTED GROUP OF TEN
OS 111-1	SENDER GROUP TEST - SENDER GROUP SELECTION - LL RELAY CHAIN - MISC. FEATURES
OS 112-1	OPERATION OF SUBGROUP CONNECTOR RELAY AND PRIMARY SELECT MAGNETS
OS 113-1	SENDER SELECTION AND OPERATION OF SECONDARY SELECT MAGNETS
OS 114-1	OPERATING PRIMARY AND SECONDARY HOLD MAGNETS - CHECKING OPERATION AND DOUBLE CONN. TEST
OS 115-1	DISTRICT JUNCTOR SELECTION - OPERATING SECONDARY DISTRICT HOLD MAGNET
OS 116-1	OPERATING THE SUBSCRIBER'S LINE HOLD MAGNET
OS 117-1	RECORDING CLASS OF SERVICE INDICATION IN THE SUBSCRIBER SENDER

ISSUE	1
DATE	2/54

SC & OS
INDEX

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.
PRINTED IN U.S.A.

ES-

LINE LINK AND SUBSCRIBER SENDER LINK AND CONTROLLERS

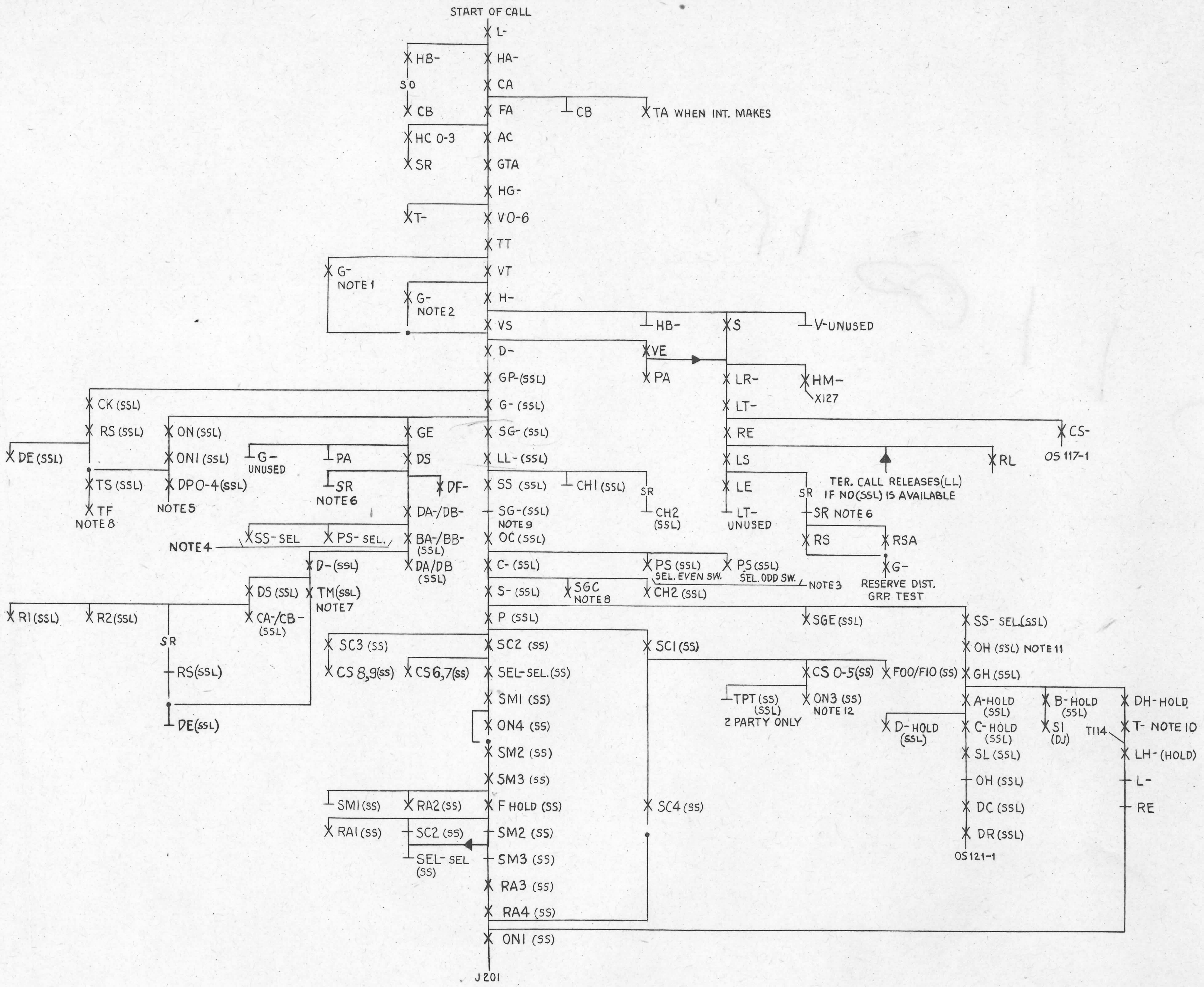
NUMBER	TITLE
OS 118-1	RECORDING DISTRICT FRAME INDICATION
OS 119-1	CHECKING REGISTRATION OF CLASS OF SERVICE AND DISTRICT FRAME RELAYS
OS 120-1	RECEIVING DIAL TONE
OS 121-1	CONTROL OF CROSSPOINTS TO SUBSCRIBERS SENDER AND RELEASING THE CONTROLLERS
OS 122-1	CHECKING DISTRICT JUNCTORS IDLE - ONE, MORE THAN ONE OR NONE - REGULAR OR RESERVE TEST
OS 123-1	ALARM AND TRANSFER TIMING CIRCUIT
OS 124-1	TIMED RELEASE ON TROUBLE - TRAFFIC DELAYS AND FALSE STARTS - SEIZURE AND RELEASE OF TRO. IND.
OS 125-1	RL OPERATING PATH
OS 125-2	LA, LB OPERATING PATH
OS 126-1	MAKING THE SENDER BUSY
OS 130-1	TROUBLE INDICATOR TIMING AND CONTROL RELAYS
OS 131-1	INDICATING LAMPS AND RELAYS
OS 132-1	AMA LEAD CHECK AND MISC.
OS 127-1	LINE LOAD CONTROL

ISSUE 1
DATE 2/54

SC & OS
INDEX

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.
PRINTED IN U.S.A.



ISSUE 1 DATE 12/4/53

SUBSCRIBER LINE LINK,
SENDER LINK AND CONTROLLER CIRCUITS
RECEIVING DIAL TONE

SC 101-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

2 SHEETS, SHEET 1

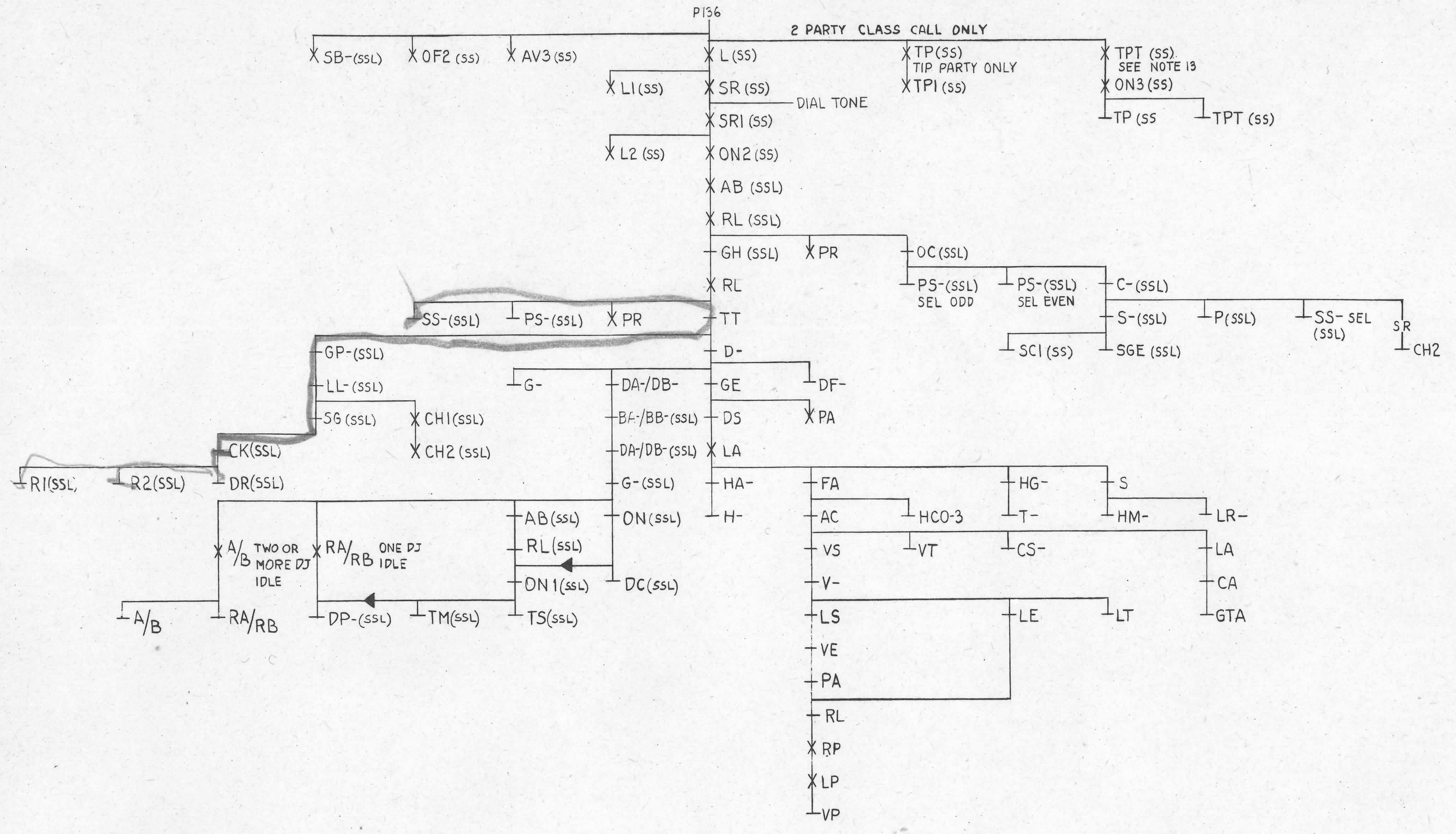
38-Y-4103

PRINTED IN U.S.A.

38-Y-4103

2 SHEETS, SHEET 2

ISSUE	DATE
1	12/16/53



NOTES
1. G RELAYS 0 TO 4 MAY OPERATE.
2. G RELAYS 5 TO 9 MAY OPERATE.
3. PRIMARY SELECT MAGNETS (SSL).
4. PRIMARY AND SECONDARY SELECT MAGNETS (LL).
5. INDICATING BUSY SSL FRAME TO THE LL FRAME.
6. RELEASE OF SR RELAY BY DS RELAY IF NOT PREVIOUSLY RELEASED BY LS RELAY.
7. RELAY TM OPERATES WHEN TWO OR MORE DISTRICT JUNCTORS ARE AVAILABLE.
8. OPERATE WHEN THE CONTROLLER TROUBLE INDICATOR IS SUMMONED.
9. ALL BUT THE ONE PREFERRED MUST BE RELEASED.
10. THE T RELAY SELECTED OPERATES.
11. RELAY DE(SSL) MUST BE NORMAL
12. EXCEPT 2 PARTY CLASS CALL.
13. CONDENSER TIMED RELAY.

*LINE LINK AND CONT.	SD-25553-01	ISS. 16B
SENDER LINK AND CONT.	SD-25554-01	ISS. 18B

SUBSCRIBER LINE LINK
SENDER LINK AND CONTROLLER CIRCUITS
RECEIVING DIAL TONE

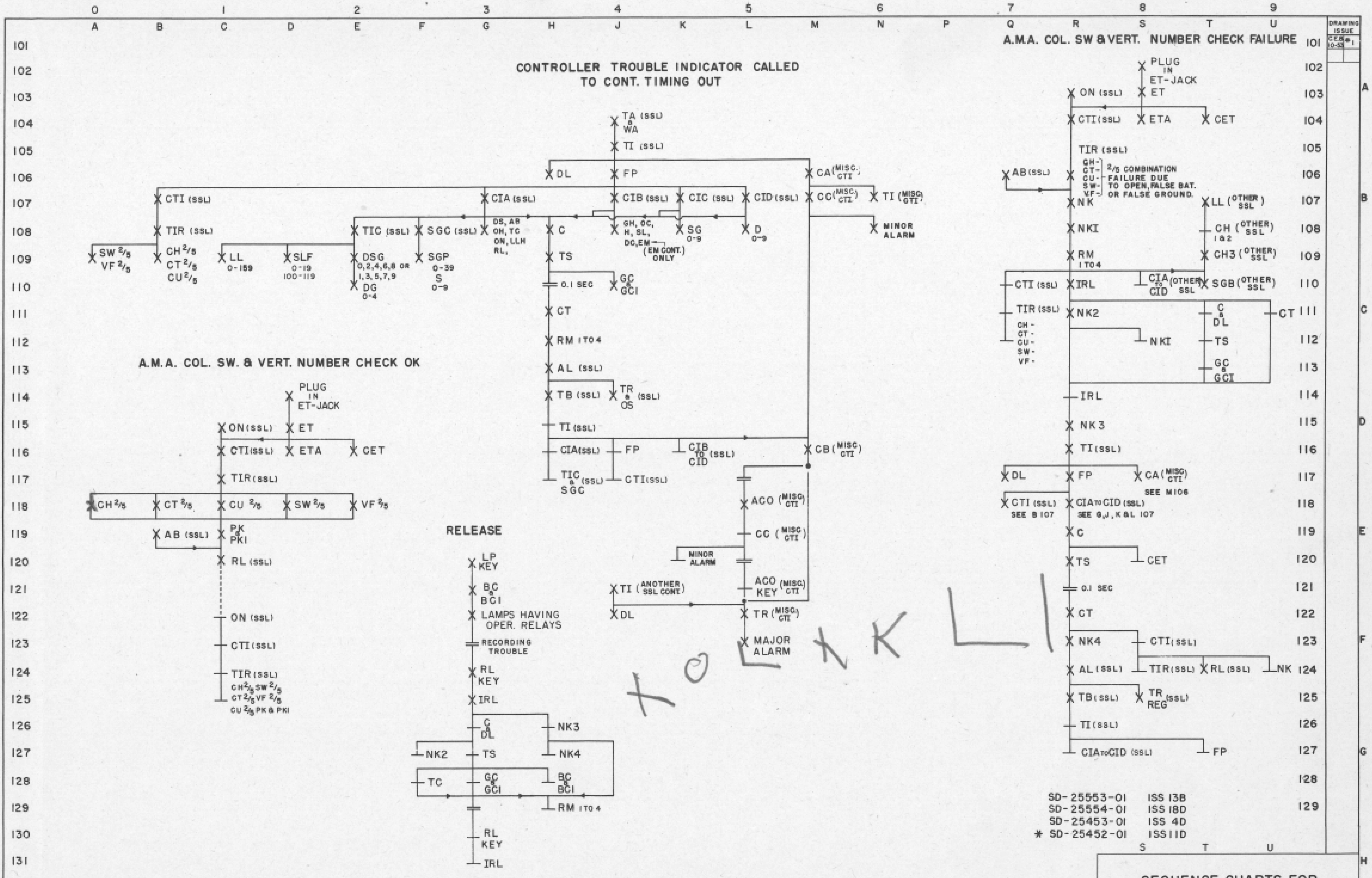
NO. 1 CROSSBAR

SC 101-1

2 SHEETS, SHEET 2

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.



x o L k K L l

SD-25553-01 ISS 13B
SD-25554-01 ISS 18D
SD-25453-01 ISS 4D
* SD-25452-01 ISS 11D

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

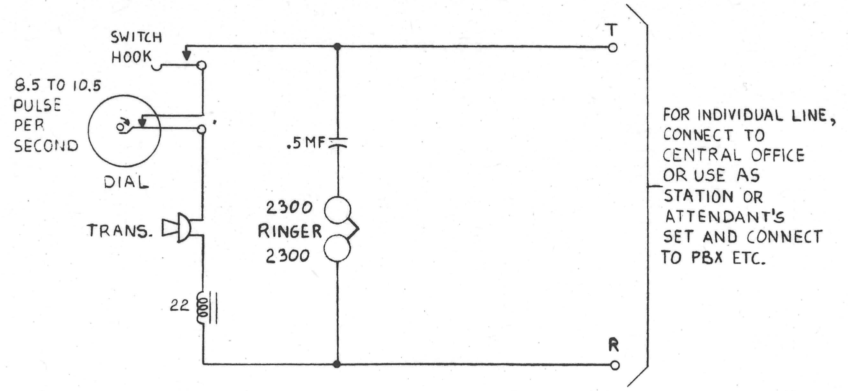
SEQUENCE CHARTS FOR CONTROLLER TROUBLE INDICATOR

NO. 1 CROSSBAR

SC 102-1

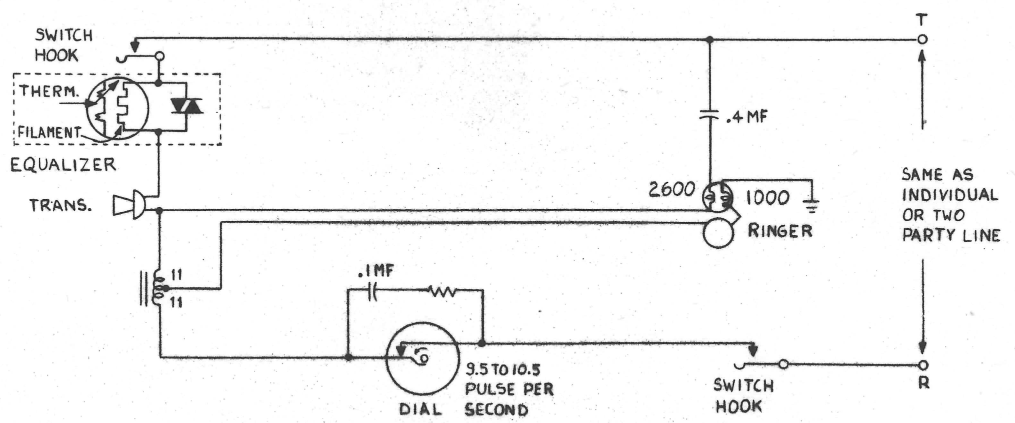
INDIVIDUAL

FLAT RATE OR MESSAGE RATE


SWITCH HOOK
8.5 TO 10.5 PULSE PER SECOND
DIAL
TRANS.
22
.5 MF
2300 RINGER 2300
T
R
FOR INDIVIDUAL LINE, CONNECT TO CENTRAL OFFICE OR USE AS STATION OR ATTENDANT'S SET AND CONNECT TO PBX ETC.

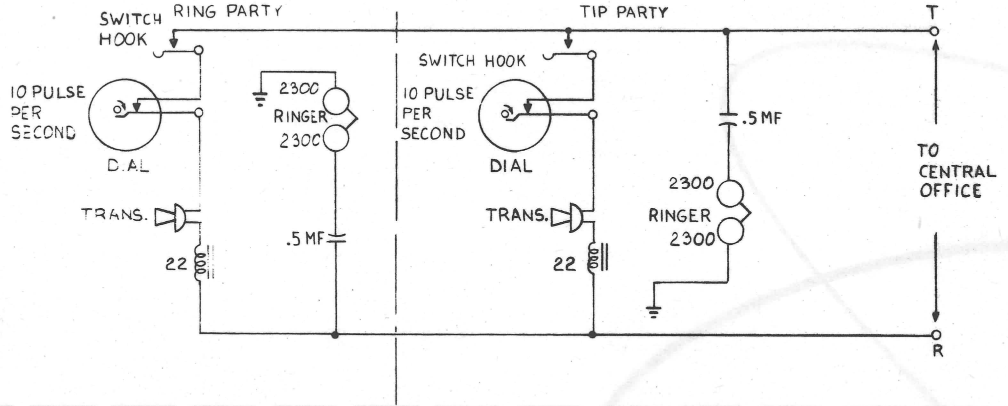
500 TYPE SET

CONNECTED FOR TIP PARTY



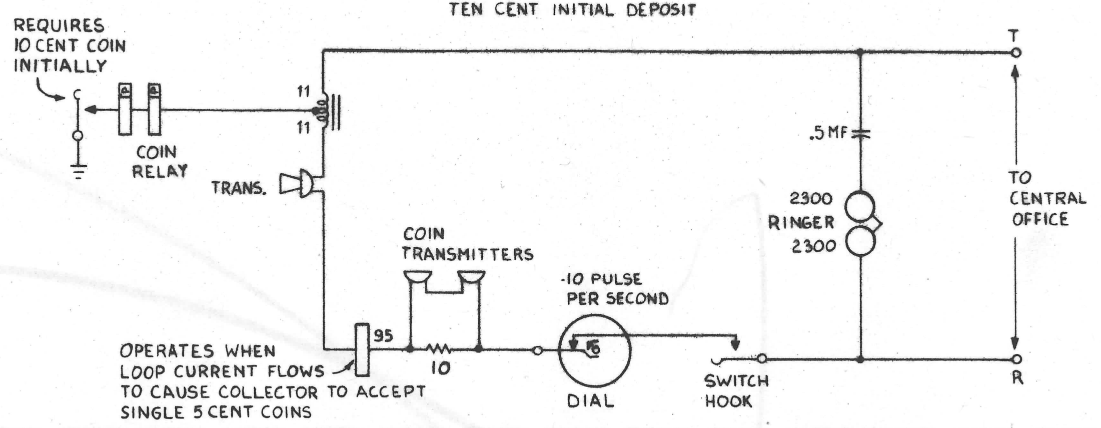
TWO PARTY

FLAT RATE



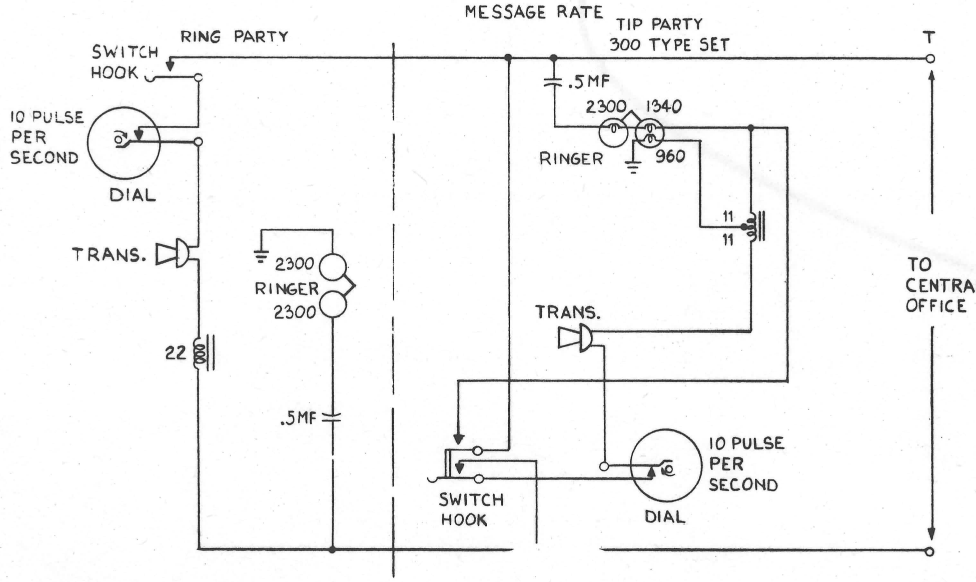
COIN LINE

TEN CENT INITIAL DEPOSIT



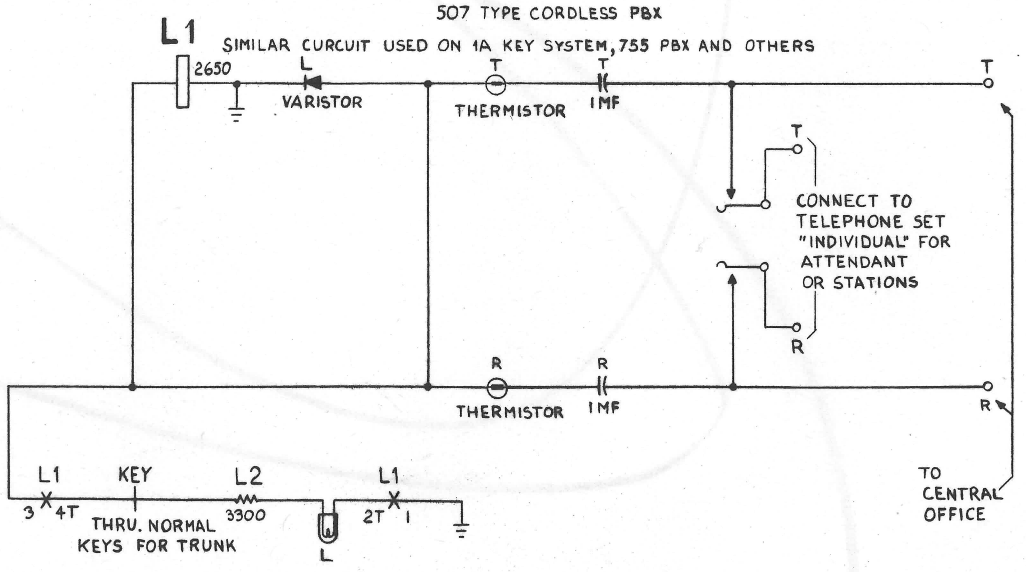
TWO PARTY

MESSAGE RATE



507 TYPE CORDLESS PBX

SIMILAR CURCUIT USED ON 1A KEY SYSTEM, 755 PBX AND OTHERS


L1
2650
L
VARISTOR
T
THERMISTOR
T
1MF
T
T
CONNECT TO TELEPHONE SET "INDIVIDUAL" FOR ATTENDANT OR STATIONS
R
R
THERMISTOR
R
1MF
R
L1
3
4T
KEY
THRU. NORMAL KEYS FOR TRUNK
L2
3300
L
L1
2T
1
TO CENTRAL OFFICE

LINE LINK AND CONTROLLER SD 25553-01 ISS 16-B

LINE LINK AND CONTROLLER CIRCUIT

LINE CIRCUIT EQUIPMENT

OS101-1

3 SHEETS, SHEET 1

NO.1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

ISSUE	1	LJR
DATE	1/14/63	

3 SHEETS, SHEET 1

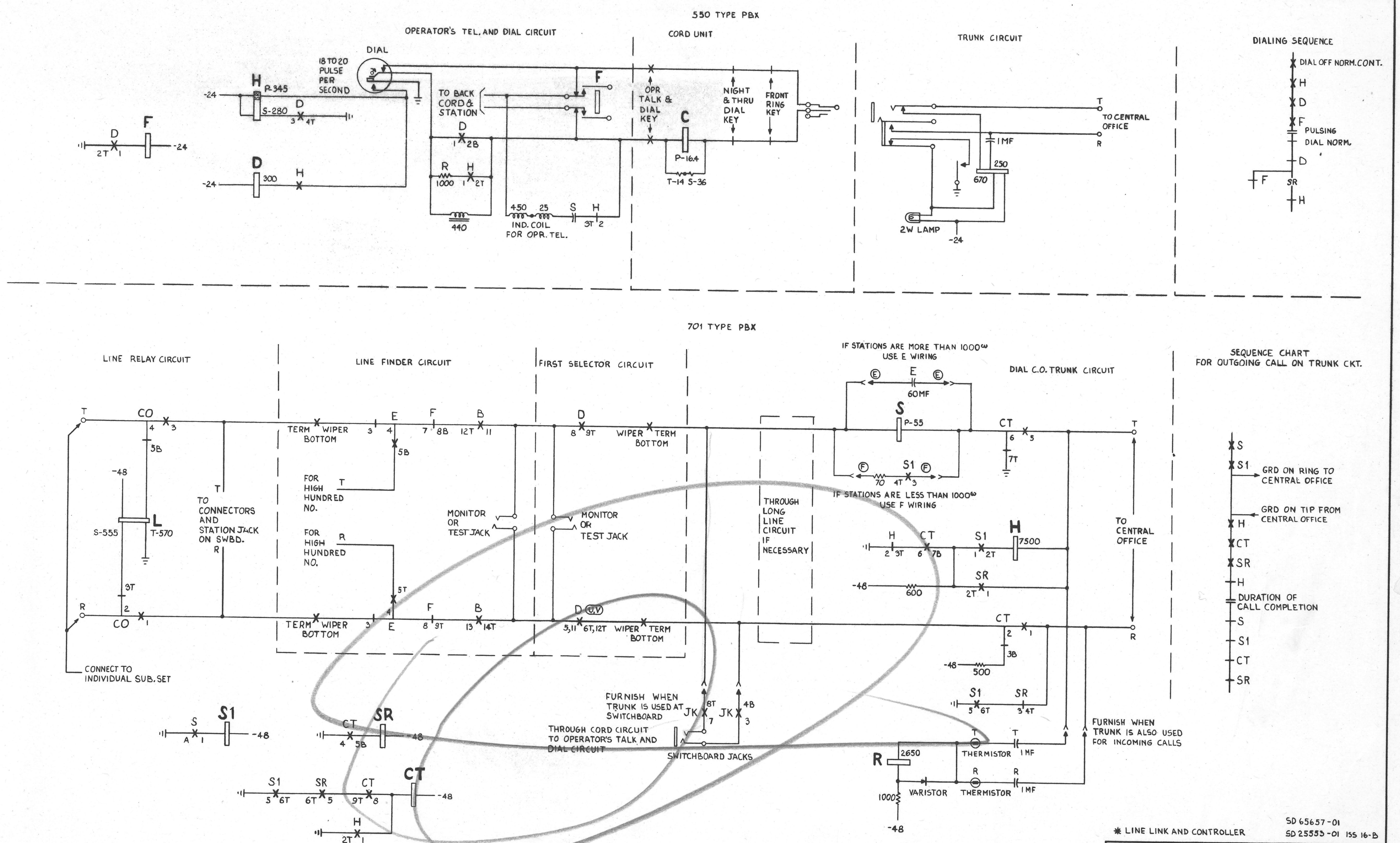
38-Y-4116

PRINTED IN U. S. A.

38-Y-4116

3 SHEETS, SHEET 2

ISSUE	1	LTR
DATE	12/16/53	



SD 65657-01
SD 25553-01 ISS 16-B

✱ LINE LINK AND CONTROLLER

LINE LINK AND CONTROLLER CIRCUIT

LINE CIRCUIT EQUIPMENT

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

NO. 1 CROSSBAR

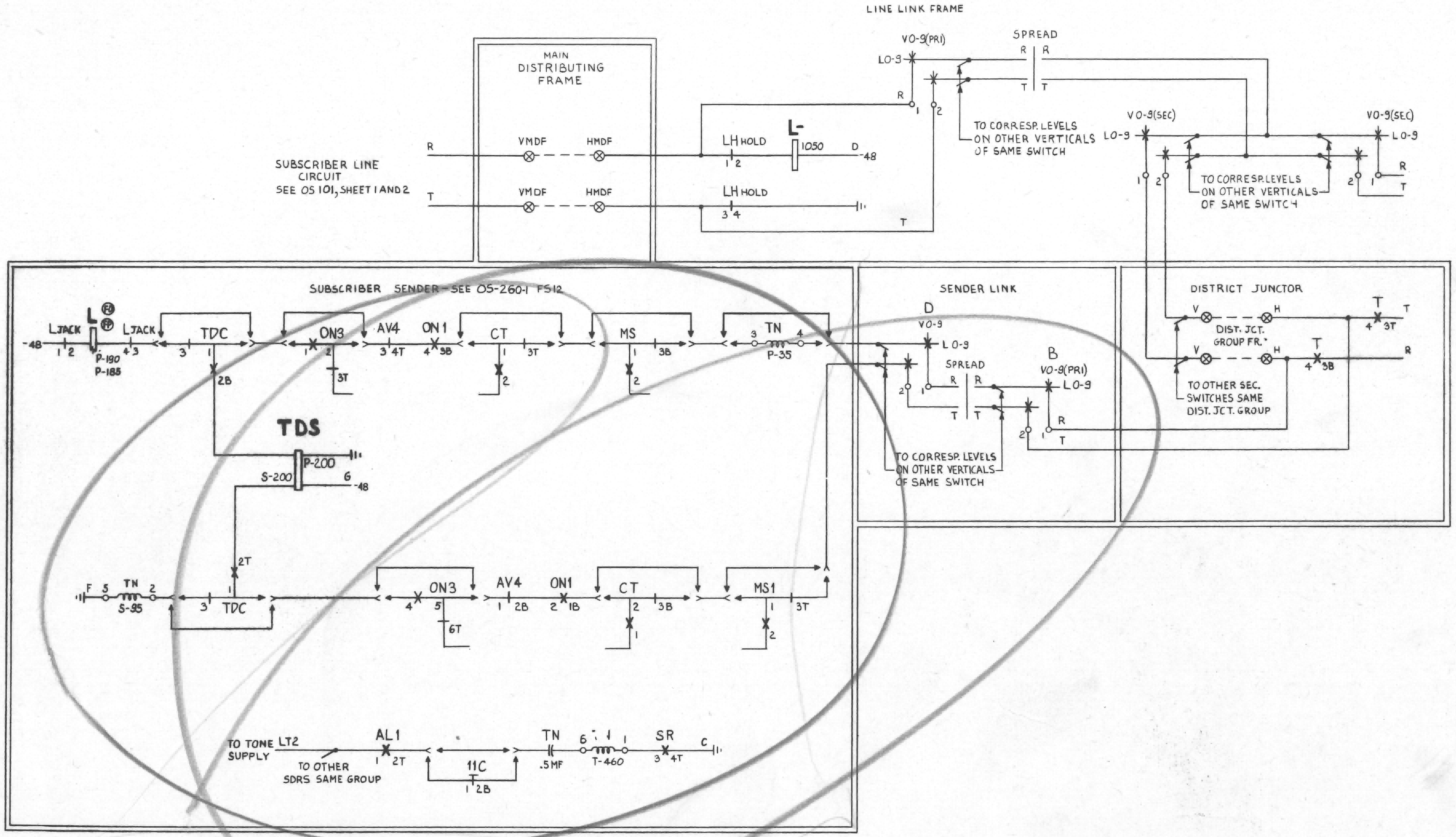
OS 101-1

3 SHEETS,

38-Y-4116

3 SHEETS, SHEET 3

ISSUE	1	1 J R
DATE	12/14/55	



SUBSCRIBER SENDER	SD 25012-01	ISS-71 D
SUBSCRIBER SENDER LINK AND CONTROLLER	SD 25554-01	ISS-18 D
LINE LINK AND CONTROLLER	SD 25553-01	ISS-16 B
DISTRICT JUNCTOR	SD 25020-011	ISS-29 D

LINE LINK AND CONTROLLER CIRCUIT

LINE EQUIPMENT

RECEIVING DIAL TONE - PARTY TEST - COIN TEST

SENDER MONITOR AND TOLL DIVERSION

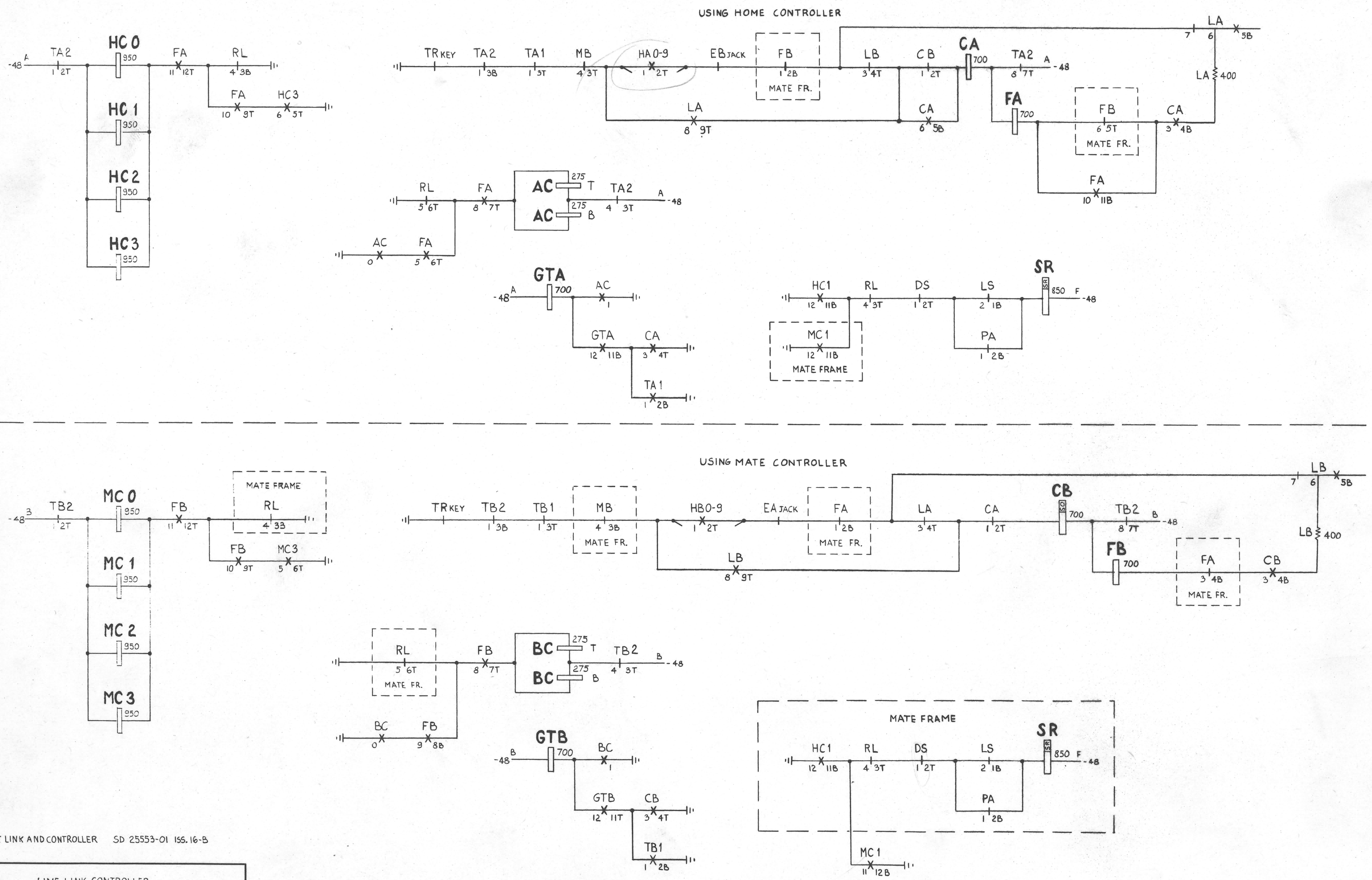
NO.1 CROSSBAR

OS 101-1

3 SHEETS, SHEET 3

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.


USING HOME CONTROLLER
-48 A TA2 1 2T HC0 950 FA 11 12T RL 4 3B
FA 10 9T HC3 6 5T
HC1 950
HC2 950
HC3 950
TR KEY TA2 1 3B TA1 1 3T MB 4 3T HA0-9 1 2T EB JACK FB 1 2B MATE FR. LB 3 4T CB 1 2T CA 700 TA2 8 7T A -48
LA 7 6 5B
LA 400
LA 8 9T
CA 6 5B
FA 700 FB 6 5T MATE FR. CA 3 4B
FA 10 11B
RL 5 6T FA 8 7T AC 275 T AC 275 B TA2 4 3T A -48
AC 0 FA 5 6T
GTA -48 A 700 AC 1
GTA 12 11B CA 3 4T
TA1 1 2B
HC1 12 11B RL 4 3T DS 1 2T LS 2 1B SR 850 F -48
MC1 12 11B MATE FRAME
PA 1 2B
USING MATE CONTROLLER
-48 B TB2 1 2T MC0 950 FB 11 12T MATE FRAME RL 4 3B
FB 10 9T MC3 5 6T
MC1 950
MC2 950
MC3 950
TR KEY TB2 1 3B TB1 1 3T MB 4 3B MATE FR. HB0-9 1 2T EA JACK FA 1 2B MATE FR. LA 3 4T CA 1 2T CB SO 700 TB2 8 7T B -48
LB 7 6 5B
LB 400
LB 8 9T
FB 700 FA 3 4B MATE FR. CB 3 4B
RL 5 6T MATE FR. FB 8 7T BC 275 T BC 275 B TB2 4 3T B -48
BC 0 FB 9 8B
GTB B -48 700 BC 1
GTB 12 11T CB 3 4T
TB1 1 2B
MATE FRAME
HC1 12 11B RL 4 3T DS 1 2T LS 2 1B SR 850 F -48
PA 1 2B
MC1 11 12B

LINE LINK AND CONTROLLER SD 25553-01 ISS. 16-B

LINE LINK CONTROLLER

CONTROLLER SELECTION
"A" AND "B" START CIRCUIT

OS 102-1

2 SHEETS, SHEET 1

NO.1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

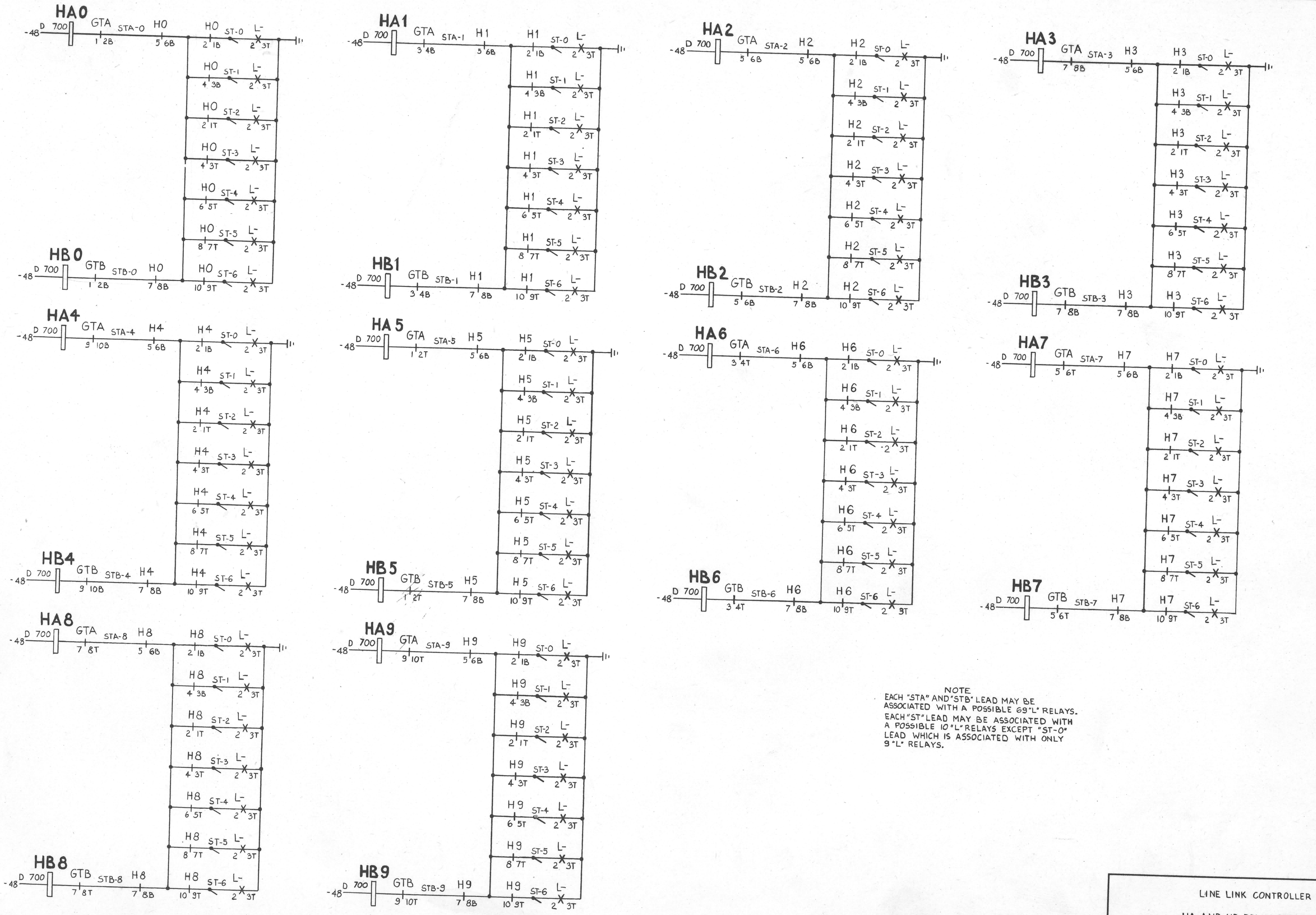
ISSUE 1 LJR
DATE 12/16/53

2 SHEETS, SHEET 1

38-Y-4119

2 SHEETS, SHEET 2

ISSUE	1				
DATE	12/16/53				


HA0 -48 D 700 GTA 1 2B STA-0 H0 5 6B
H0 ST-0 L- 2 1B 2 3T
H0 ST-1 L- 4 3B 2 3T
H0 ST-2 L- 2 1T 2 3T
H0 ST-3 L- 4 3T 2 3T
H0 ST-4 L- 6 5T 2 3T
H0 ST-5 L- 8 7T 2 3T
H0 ST-6 L- 10 9T 2 3T
HB0 -48 D 700 GTB 1 2B STB-0 H0 7 8B
HA1 -48 D 700 GTA 3 4B STA-1 H1 5 6B
H1 ST-0 … ST-6 L-
HB1 -48 D 700 GTB 3 4B STB-1 H1 7 8B
HA2 -48 D 700 GTA 5 6B STA-2 H2 5 6B
H2 ST-0 … ST-6 L-
HB2 -48 D 700 GTB 5 6B STB-2 H2 7 8B
HA3 -48 D 700 GTA 7 8B STA-3 H3 5 6B
H3 ST-0 … ST-6 L-
HB3 -48 D 700 GTB 7 8B STB-3 H3 7 8B
HA4 -48 D 700 GTA 9 10B STA-4 H4 5 6B
H4 ST-0 … ST-6 L-
HB4 -48 D 700 GTB 9 10B STB-4 H4 7 8B
HA5 -48 D 700 GTA 1 2T STA-5 H5 5 6B
H5 ST-0 … ST-6 L-
HB5 -48 D 700 GTB 1 2T STB-5 H5 7 8B
HA6 -48 D 700 GTA 3 4T STA-6 H6 5 6B
H6 ST-0 … ST-6 L-
HB6 -48 D 700 GTB 3 4T STB-6 H6 7 8B
HA7 -48 D 700 GTA 5 6T STA-7 H7 5 6B
H7 ST-0 … ST-6 L-
HB7 -48 D 700 GTB 5 6T STB-7 H7 7 8B
HA8 -48 D 700 GTA 7 8T STA-8 H8 5 6B
H8 ST-0 … ST-6 L-
HB8 -48 D 700 GTB 7 8T STB-8 H8 7 8B
HA9 -48 D 700 GTA 9 10T STA-9 H9 5 6B
H9 ST-0 … ST-6 L-
HB9 -48 D 700 GTB 9 10T STB-9 H9 7 8B

NOTE
EACH "STA" AND "STB" LEAD MAY BE ASSOCIATED WITH A POSSIBLE 69 "L" RELAYS.
EACH "ST" LEAD MAY BE ASSOCIATED WITH A POSSIBLE 10 "L" RELAYS EXCEPT "ST-0" LEAD WHICH IS ASSOCIATED WITH ONLY 9 "L" RELAYS.

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

LINE LINK CONTROLLER

HA AND HB RELAY OPERATION
STA, STB AND ST LEADS

NO. 1 CROSSBAR

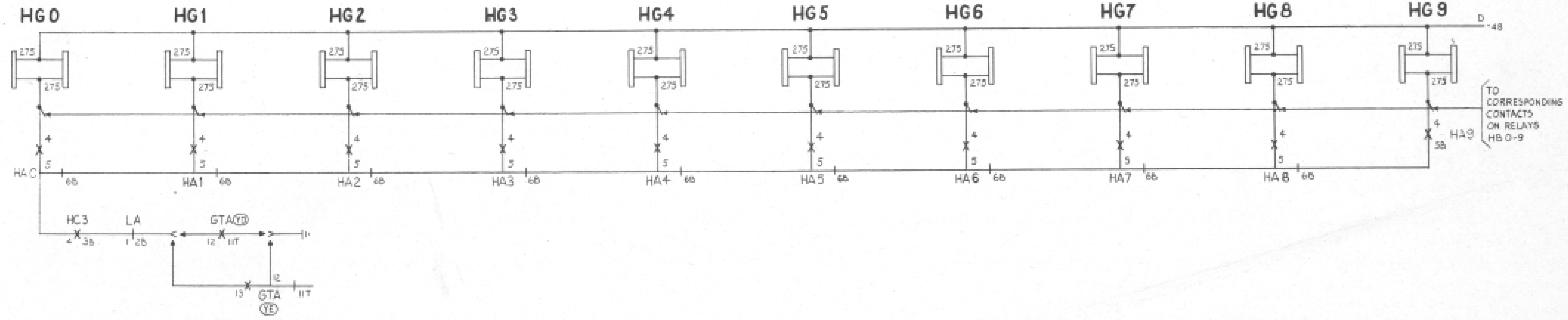
OS 102-1

2 SHEETS, SHEET 2

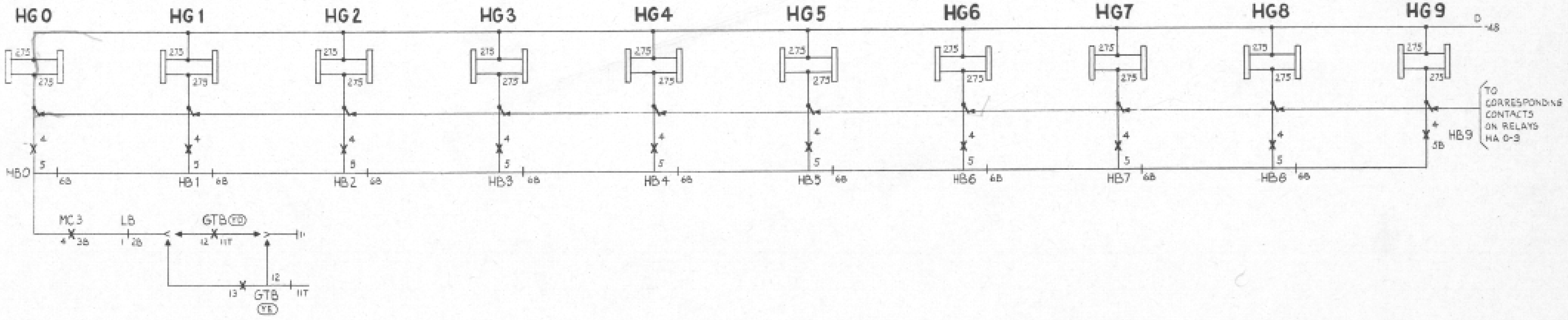
35-Y-4122

ISSUE	DATE
1	[illegible]

HOME CONTROLLER



MATE CONTROLLER



LINE LINK AND CONTROLLER SD 25553-01 ISS. 16B

LINE LINK CONTROLLER

HORIZONTAL GROUP SELECTION
HOME OR MATE CONTROLLER

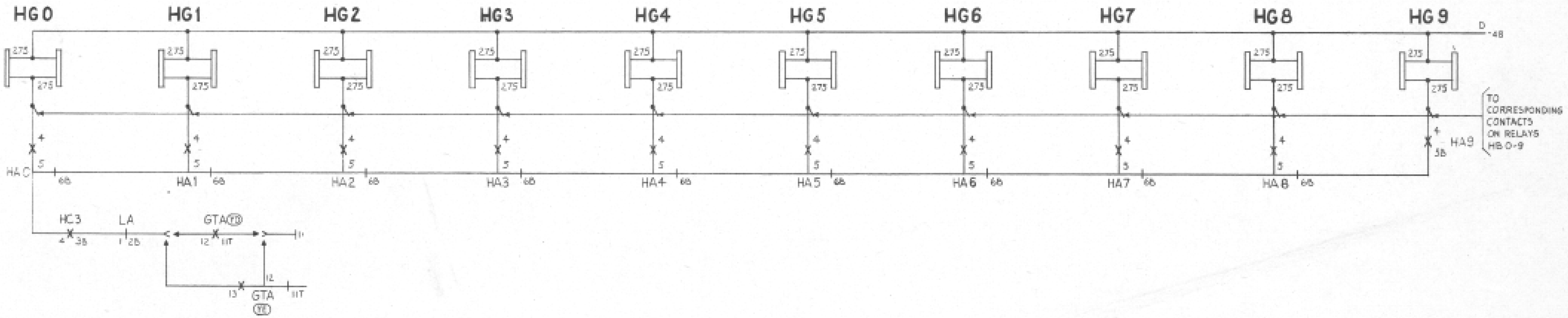
NO. 1 CROSSBAR

OS103-1

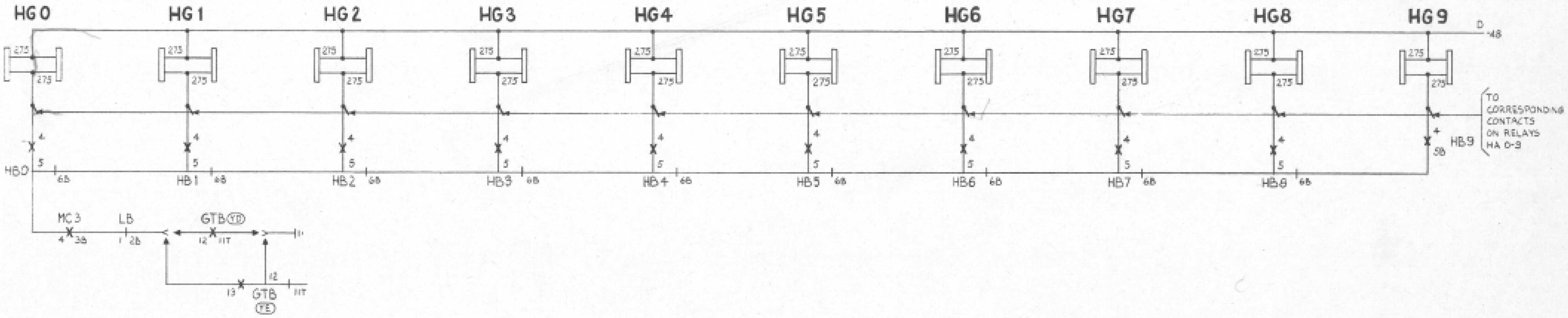
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

HOME CONTROLLER



MATE CONTROLLER

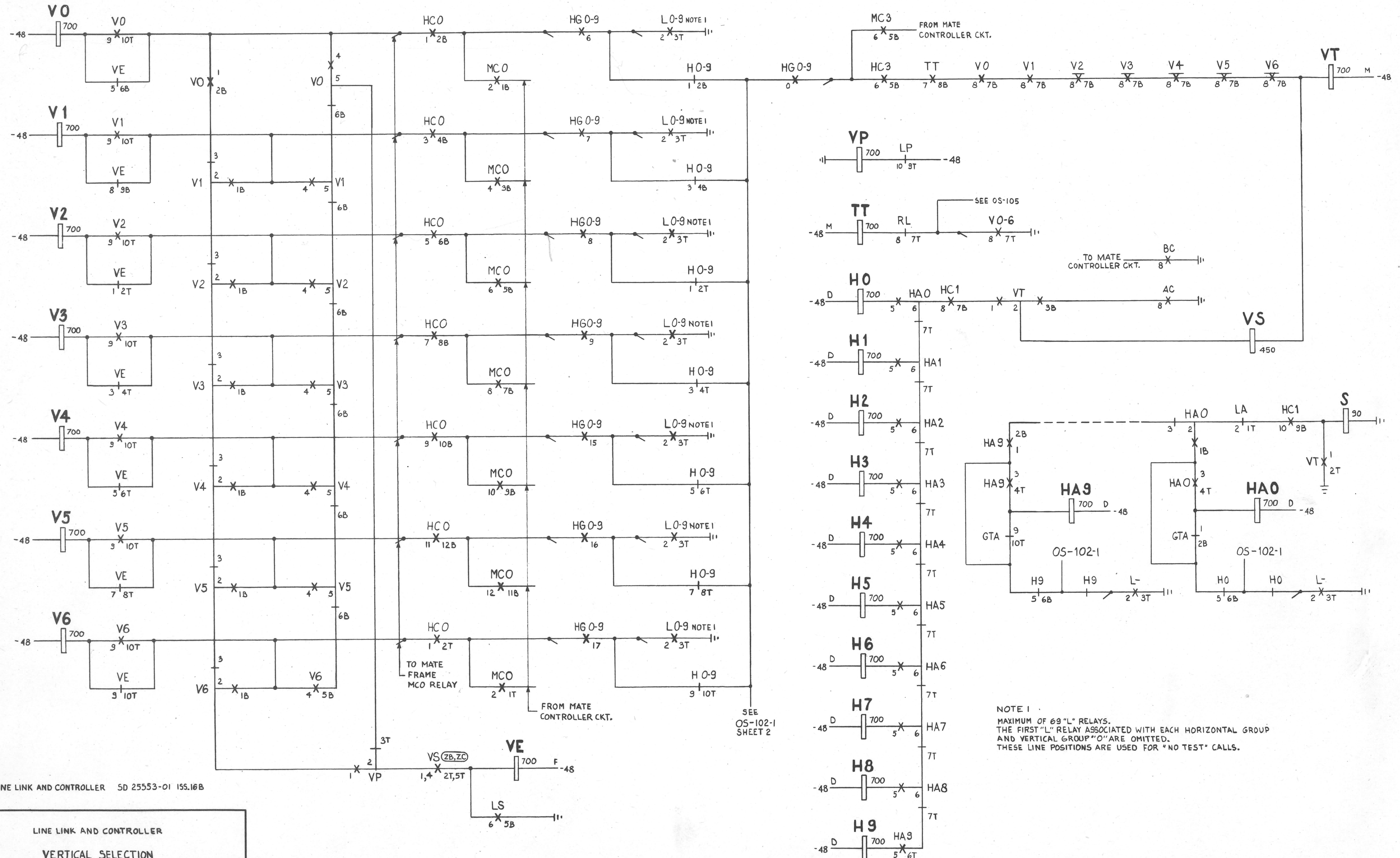


LINE LINK AND CONTROLLER SD 25553-01 ISS. 16B

LINE LINK CONTROLLER
HORIZONTAL GROUP SELECTION
HOME OR MATE CONTROLLER

NO. 1 CROSSBAR
OS103-1

AMERICAN TELEPHONE & TELEGRAPH CO.
PRINTED IN U.S.A.



NOTE 1

MAXIMUM OF 69 "L" RELAYS.
THE FIRST "L" RELAY ASSOCIATED WITH EACH HORIZONTAL GROUP AND VERTICAL GROUP "0" ARE OMITTED.
THESE LINE POSITIONS ARE USED FOR "NO TEST" CALLS.

LINE LINK AND CONTROLLER SD 25553-01 ISS.16B

ISSUE	1	97
DATE	12/16/53	

2 SHEETS, SHEET 1

LINE LINK AND CONTROLLER

VERTICAL SELECTION

OS-104-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

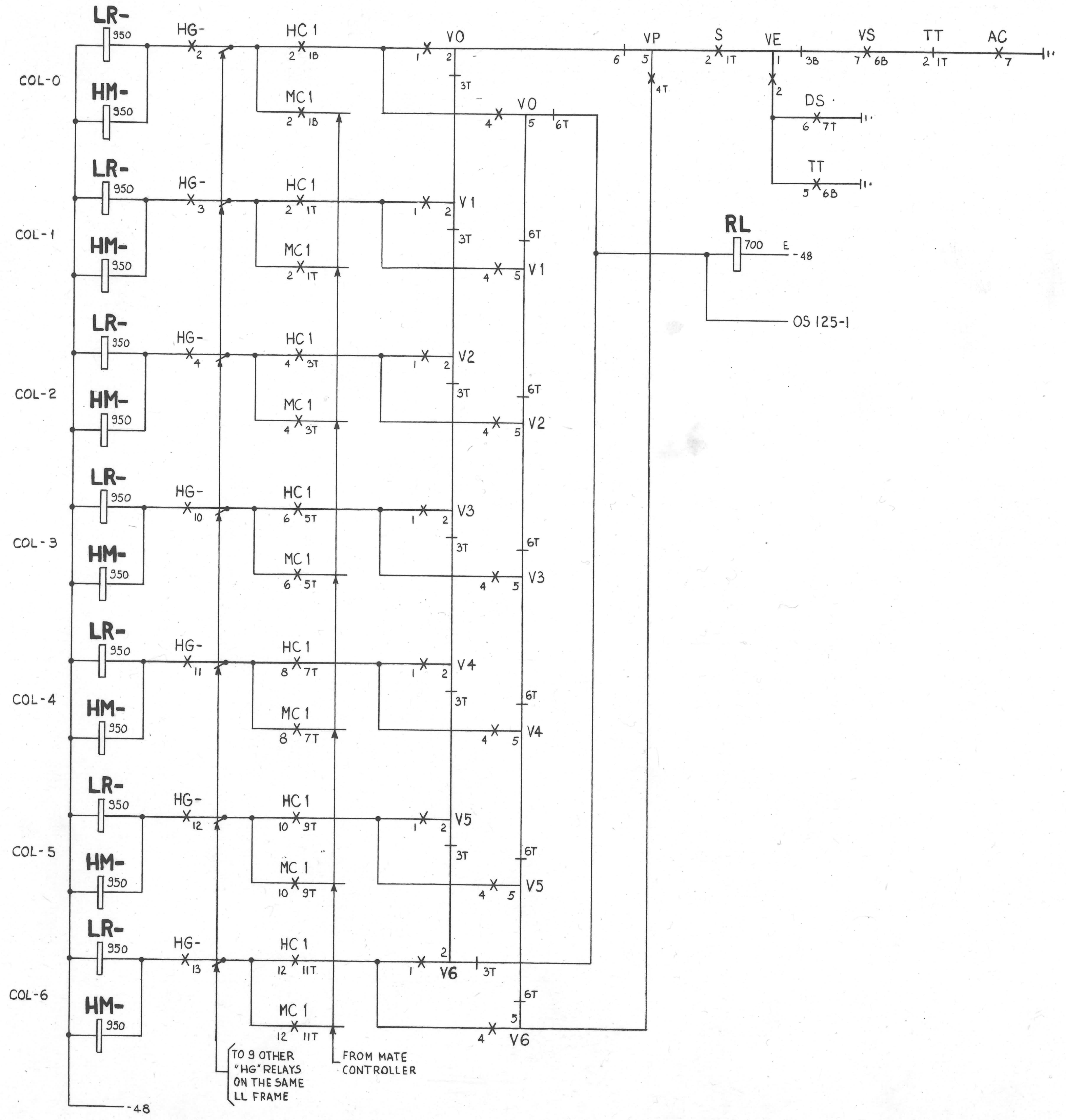
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

38-Y-4123

2 SHEETS, SHEET 2

ISSUE	1			
DATE	12/16/53			



SUB. LINE, LINE LINK & CONTROLLER CKT. SD-25553-01 ISS. 16B

LINE LINK AND CONTROLLER

VERTICAL SELECTION

AMERICAN TELEPHONE & TELEGRAPH CO.

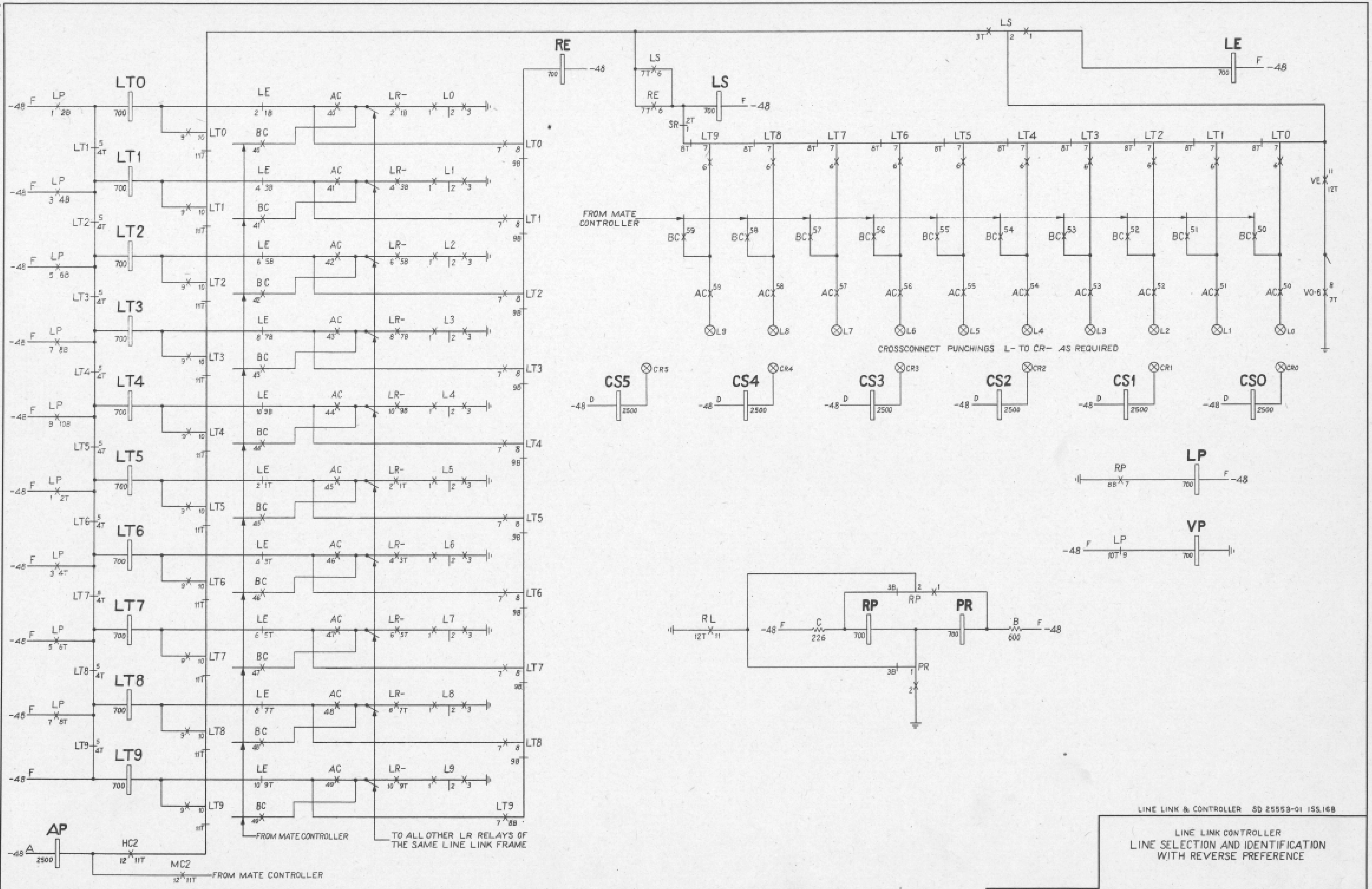
PRINTED IN U.S.A.

NO. 1 CROSSBAR

OS 104-1

2 SHEETS, SHEET 2

38-Y-4142



ISSUE	DATE
1	

LINE LINK & CONTROLLER SD 25553-01 155.168

LINE LINK CONTROLLER
LINE SELECTION AND IDENTIFICATION
WITH REVERSE PREFERENCE

NO. 1 CROSSBAR

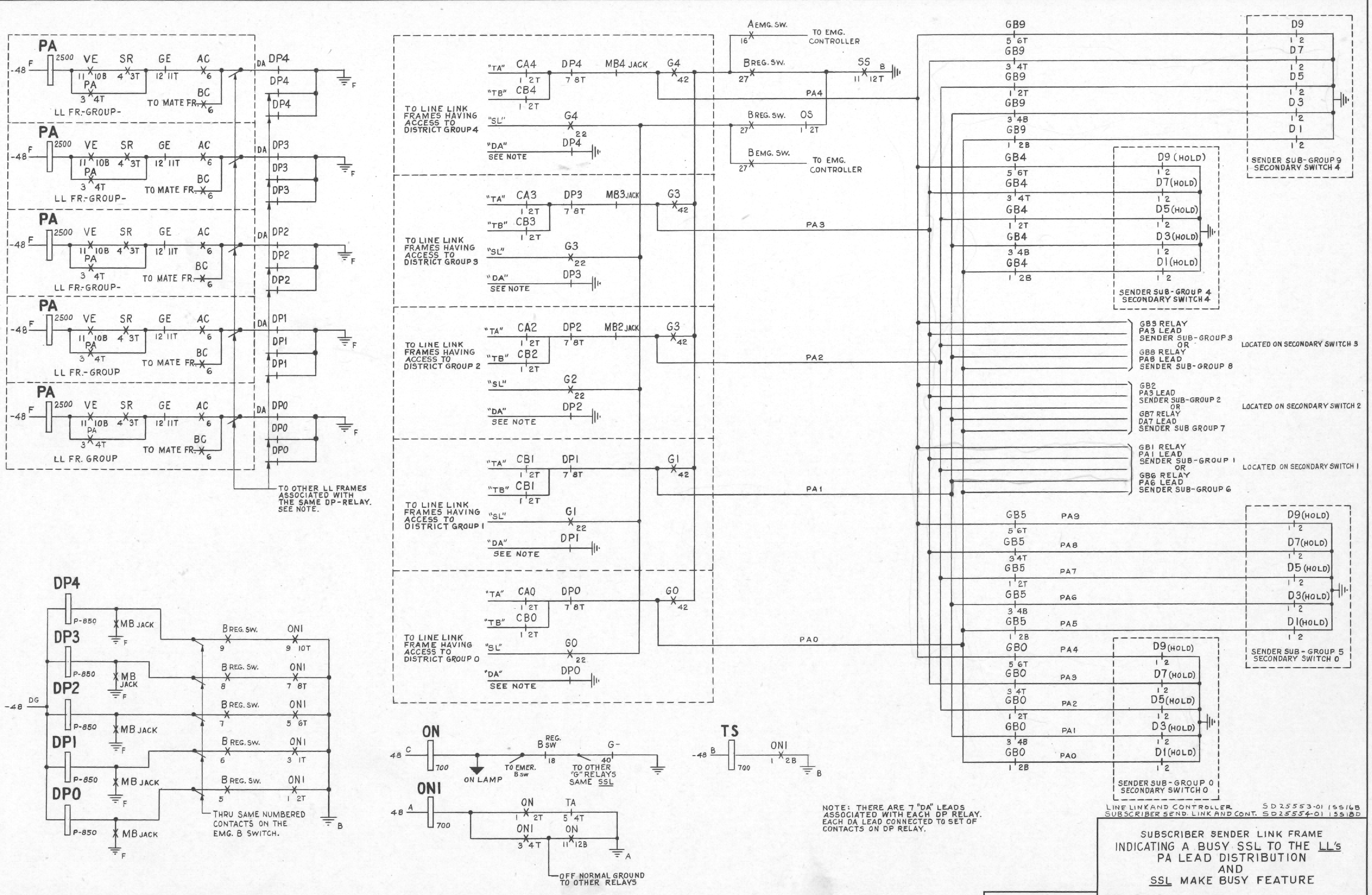
OS 105-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4159

ISSUE	1
DATE	12/12/53


PA
2500
VE
SR
GE
AC
BC
-48
F
DA
11 10B
4 3T
12 11T
3 4T
TO MATE FR.
LL FR.-GROUP-
DP4
DP3
DP2
DP1
DP0
TO OTHER LL FRAMES ASSOCIATED WITH THE SAME DP-RELAY. SEE NOTE.
P-850
MB JACK
B REG. SW.
ONI
9 10T
7 8T
5 6T
3 1T
1 2T
DG
THRU SAME NUMBERED CONTACTS ON THE EMG. B SWITCH.
"TA"
"TB"
"SL"
"DA"
SEE NOTE
CA4
CB4
MB4 JACK
G4
42
22
TO LINE LINK FRAMES HAVING ACCESS TO DISTRICT GROUP 4
TO LINE LINK FRAMES HAVING ACCESS TO DISTRICT GROUP 3
TO LINE LINK FRAMES HAVING ACCESS TO DISTRICT GROUP 2
TO LINE LINK FRAMES HAVING ACCESS TO DISTRICT GROUP 1
TO LINE LINK FRAME HAVING ACCESS TO DISTRICT GROUP 0
CA3
CB3
MB3 JACK
G3
CA2
CB2
MB2 JACK
G2
CB1
G1
CA0
CB0
G0
A EMG. SW.
TO EMG. CONTROLLER
B REG. SW.
SS
B EMG. SW.
OS
PA4
PA3
PA2
PA1
PA0
ON
700
ON LAMP
TO EMER. B SW
REG. B SW
TO OTHER "G" RELAYS SAME SSL
G-
ONI
TA
OFF NORMAL GROUND TO OTHER RELAYS
TS
GB9
GB4
GB5
GB0
D9
D7
D5
D3
D1
D9 (HOLD)
D7 (HOLD)
D5 (HOLD)
D3 (HOLD)
D1 (HOLD)
SENDER SUB-GROUP 9 SECONDARY SWITCH 4
SENDER SUB-GROUP 4 SECONDARY SWITCH 4
SENDER SUB-GROUP 5 SECONDARY SWITCH 0
SENDER SUB-GROUP 0 SECONDARY SWITCH 0
GB3 RELAY PA3 LEAD SENDER SUB-GROUP 3 OR GB8 RELAY PA8 LEAD SENDER SUB-GROUP 8
LOCATED ON SECONDARY SWITCH 3
GB2 PA3 LEAD SENDER SUB-GROUP 2 OR GB7 RELAY DA7 LEAD SENDER SUB GROUP 7
LOCATED ON SECONDARY SWITCH 2
GB1 RELAY PA1 LEAD SENDER SUB-GROUP 1 OR GB6 RELAY PA6 LEAD SENDER SUB-GROUP 6
LOCATED ON SECONDARY SWITCH 1
PA9
PA8
PA7
PA6
PA5

NOTE: THERE ARE 7 "DA" LEADS ASSOCIATED WITH EACH DP RELAY. EACH DA LEAD CONNECTED TO SET OF CONTACTS ON DP RELAY.

LINE LINK AND CONTROLLER SD25553-01 ISS16B
SUBSCRIBER SEND. LINK AND CONT. SD25554-01 ISS18D

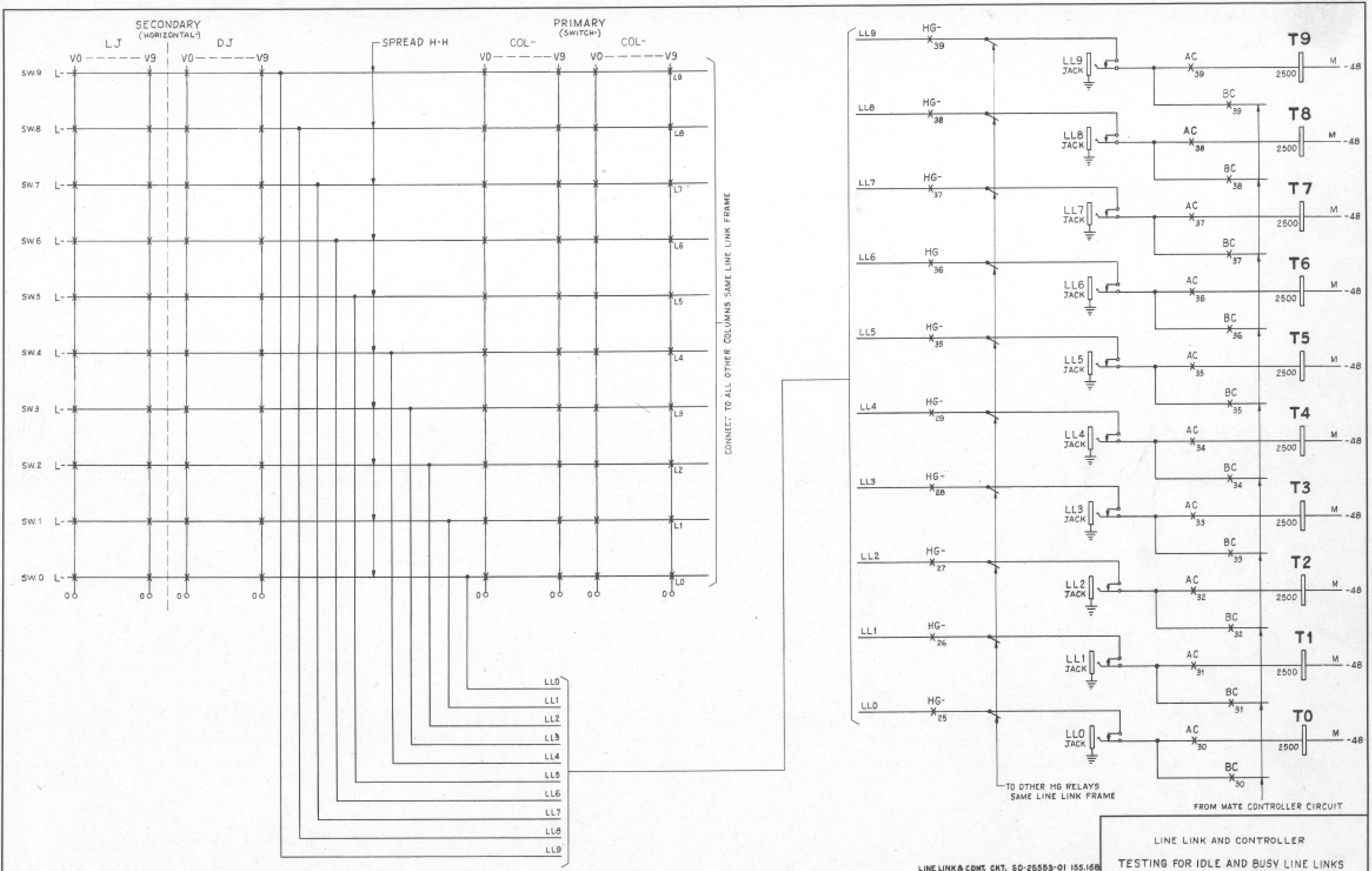
SUBSCRIBER SENDER LINK FRAME
INDICATING A BUSY SSL TO THE LL's
PA LEAD DISTRIBUTION
AND
SSL MAKE BUSY FEATURE

AMERICAN TELEPHONE & TELEGRAPH CO.

NO. 1 CROSSBAR | OS 106-1

PRINTED IN U.S.A.

38-Y-4143



ISSUE	1
DATE	

LINE LINK & CONT. CKT. SD-25553-01 ISS.16B

LINE LINK AND CONTROLLER

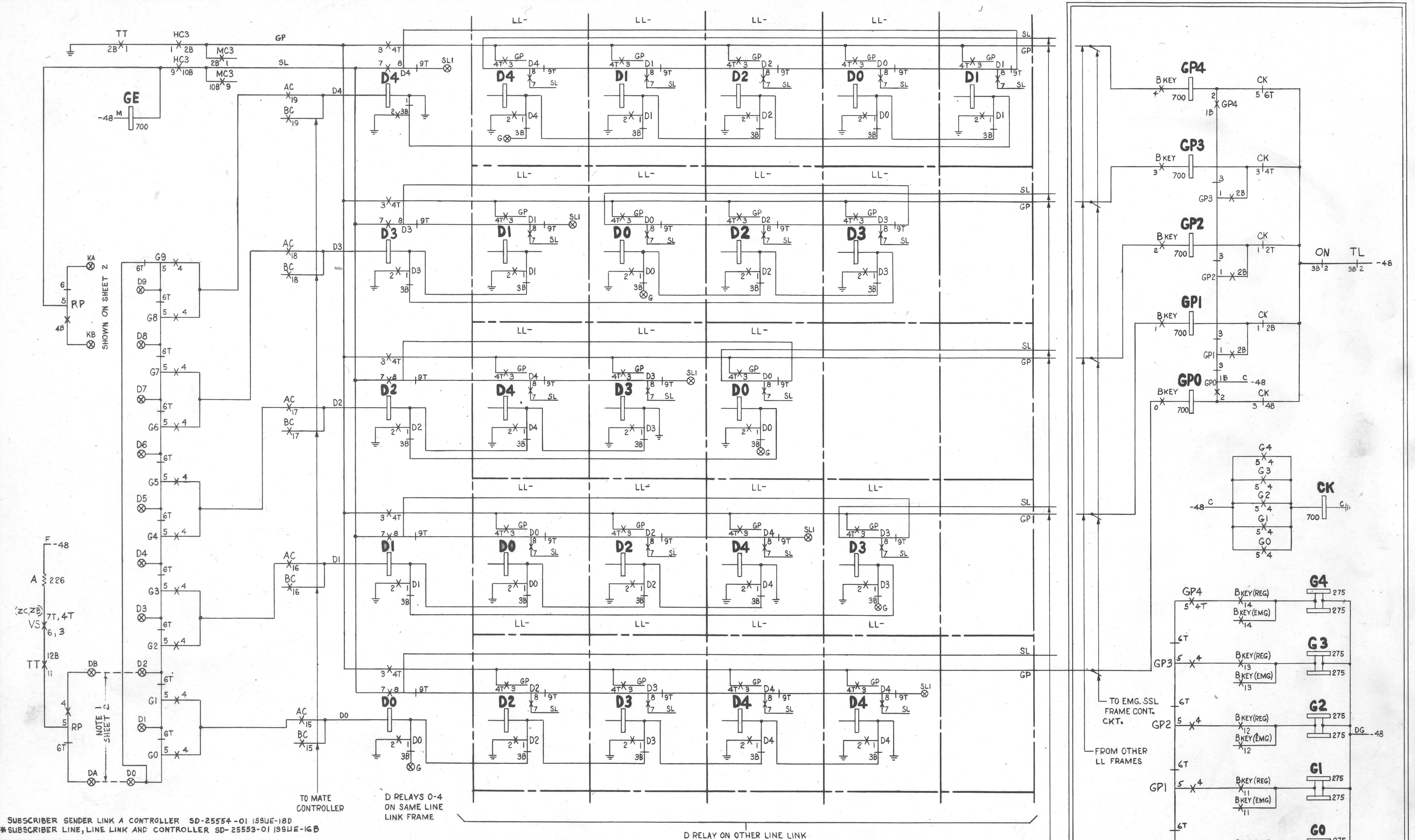
TESTING FOR IDLE AND BUSY LINE LINKS

NO. 1 CROSSBAR

0S107-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.



SUBSCRIBER SENDER LINK A CONTROLLER SD-25554-01 ISSUE-18D
*SUBSCRIBER LINE, LINE LINK AND CONTROLLER SD-25553-01 ISSUE-16B

LINE LINK CONTROLLER

ROTATION OF DISTRICT GROUP PREFERENCE. SELECTING A DISTRICT GROUP AND SEIZURE OF SUB. SENDER LINK AND CONTROLLER CKT.

OS 108-1

2 SHEETS, SHEET 1

NO.1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

38-Y-4104

2 SHEETS, SHEET 1

ISSUE	DATE
1	12/16/53

38-Y-4104

2 SHEETS, SHEET 2

ISSUE	1	LJR			
DATE	12/16/53				

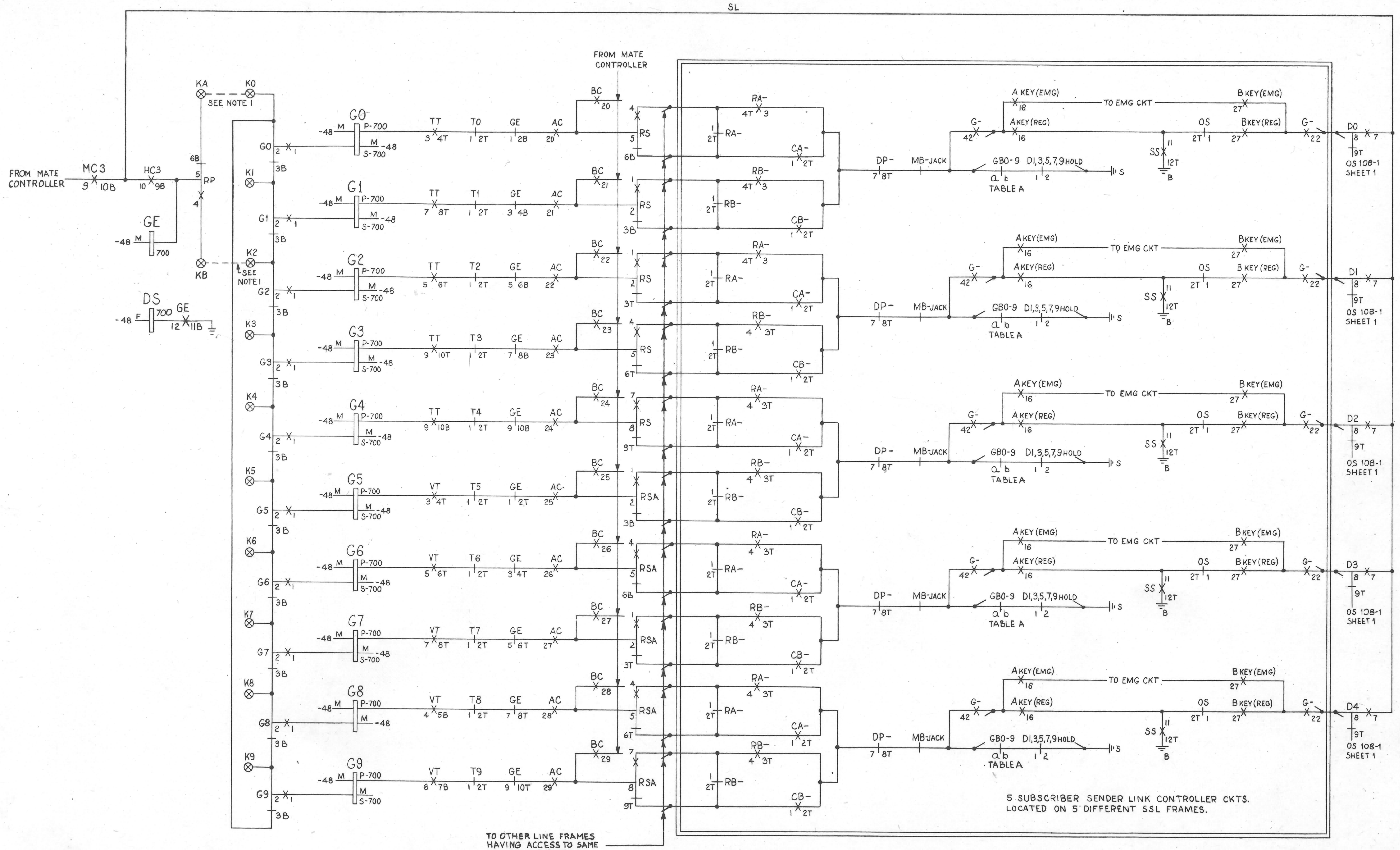


TABLE A

GB	a-b
0,5	1-2B
1,6	3-4B
2,7	1-2T
3,8	3-4T
4,9	5-6T

NOTE 1
CONNECT KA TO AN EVEN OR ODD NUMBERED TERMINAL AS REQUIRED. CONNECT KB TO THE NEXT SUCCEEDING EVEN OR ODD NUMBERED TERMINAL. LEADS (XA, XB) (DA, DB) AND (FA, FB) MUST BE CONNECTED TO CORRESPONDING TERMINALS.

LINE LINK CONTROLLER
ROTATION OF DISTRICT GROUP PREFERENCE.
SELECTING A DISTRICT GROUP AND SEIZURE
OF SUB. SENDER LINK AND CONTROLLER CKT.

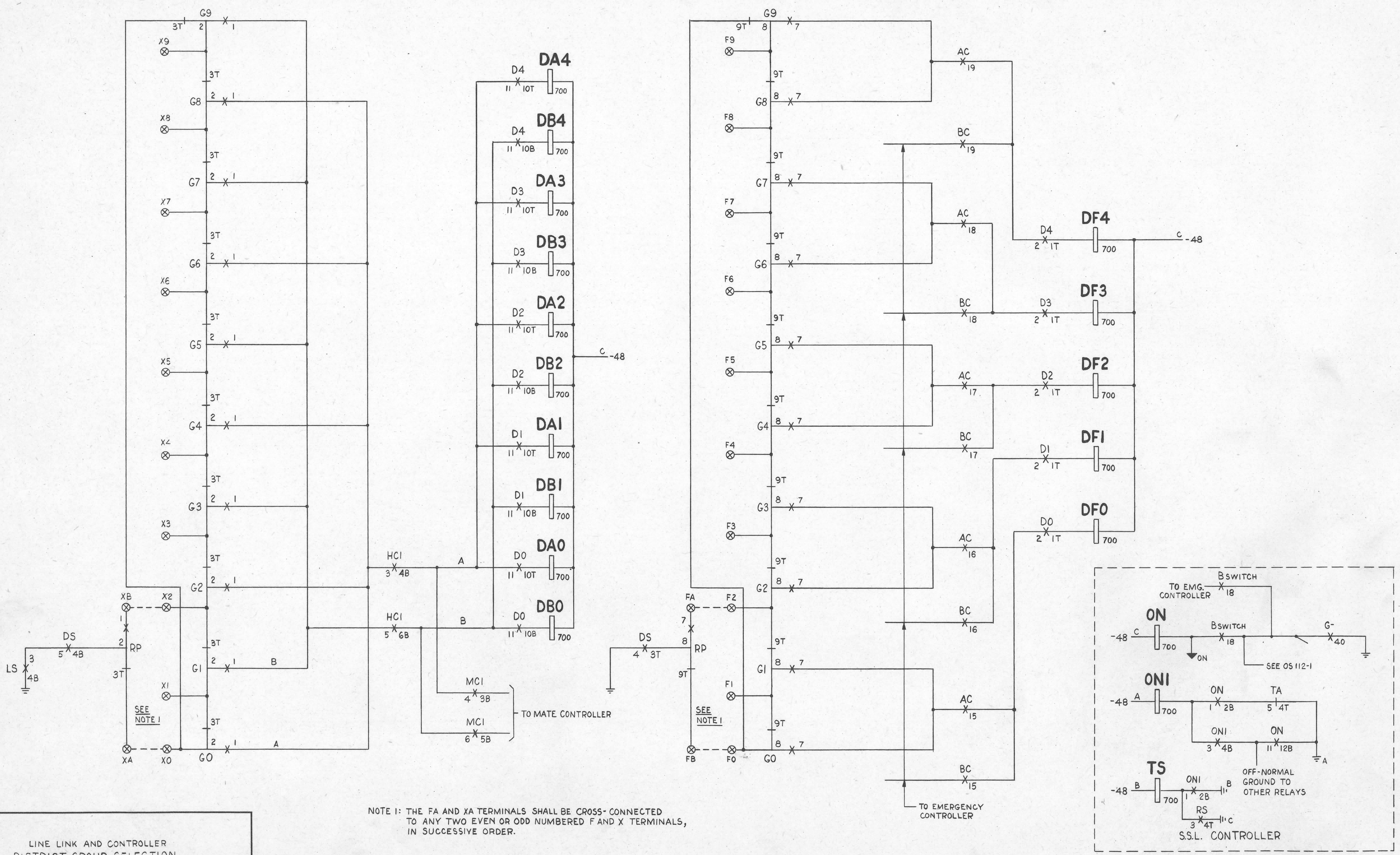
NO.1 CROSSBAR

OS-108-1

2 SHEETS, SHEET 2

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.



NOTE 1: THE FA AND XA TERMINALS SHALL BE CROSS-CONNECTED TO ANY TWO EVEN OR ODD NUMBERED F AND X TERMINALS, IN SUCCESSIVE ORDER.

ISSUE	DATE
1	12/14/53

2 SHEETS, SHEET 1

38-Y-4192

LINE LINK AND CONTROLLER
DISTRICT GROUP SELECTION
AND OPERATING LINE LINK FRAME
SELECT MAGNETS

OS-108-2

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

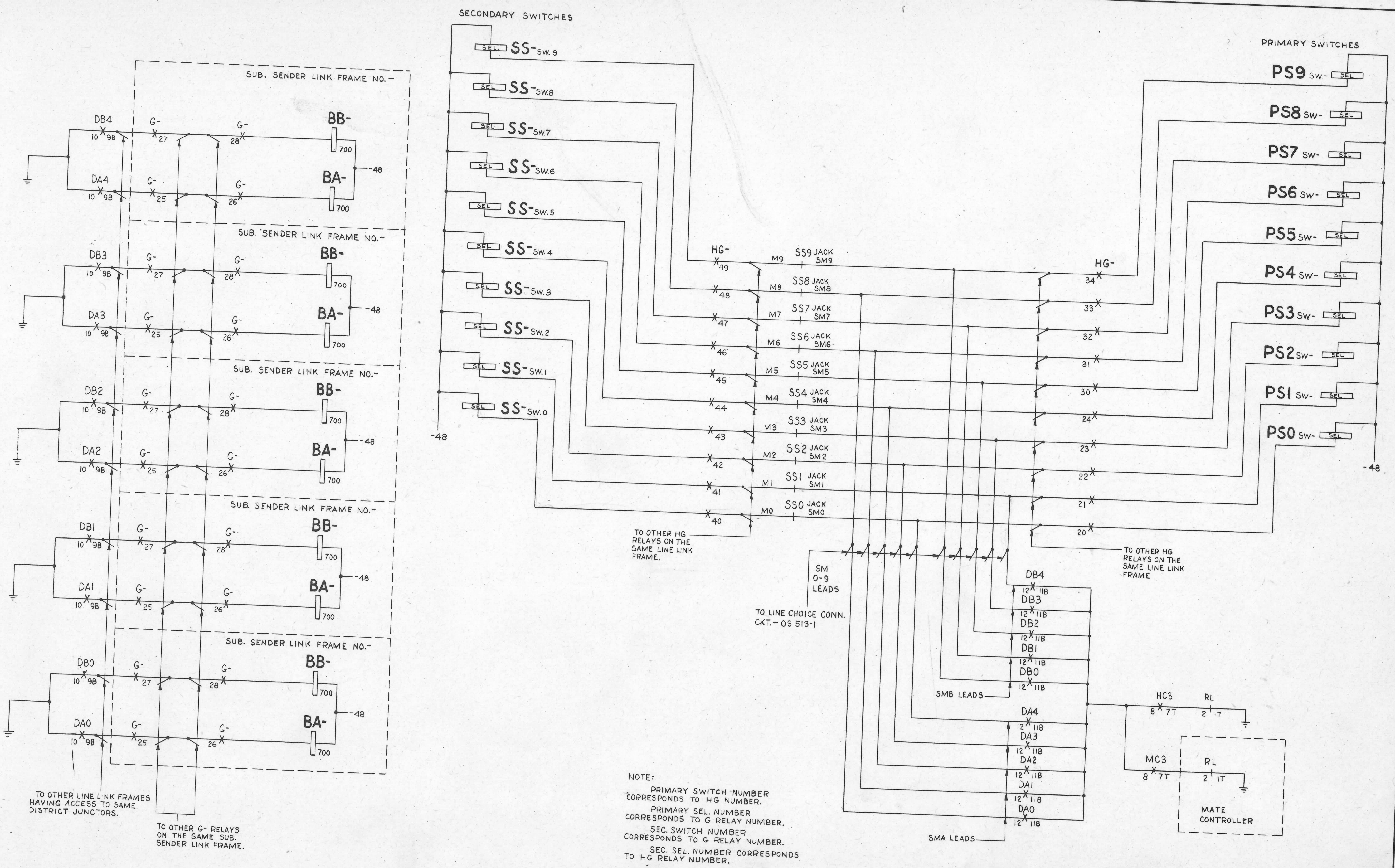
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

8-Y-4192

2 SHEETS, SHEET 2

ISSUE	DATE
1	12-17-38



NOTE:

PRIMARY SWITCH NUMBER CORRESPONDS TO HG NUMBER.

PRIMARY SEL. NUMBER CORRESPONDS TO G RELAY NUMBER.

SEC. SWITCH NUMBER CORRESPONDS TO G RELAY NUMBER.

SEC. SEL. NUMBER CORRESPONDS TO HG RELAY NUMBER.

AMERICAN TELEPHONE & TELEGRAPH CO.

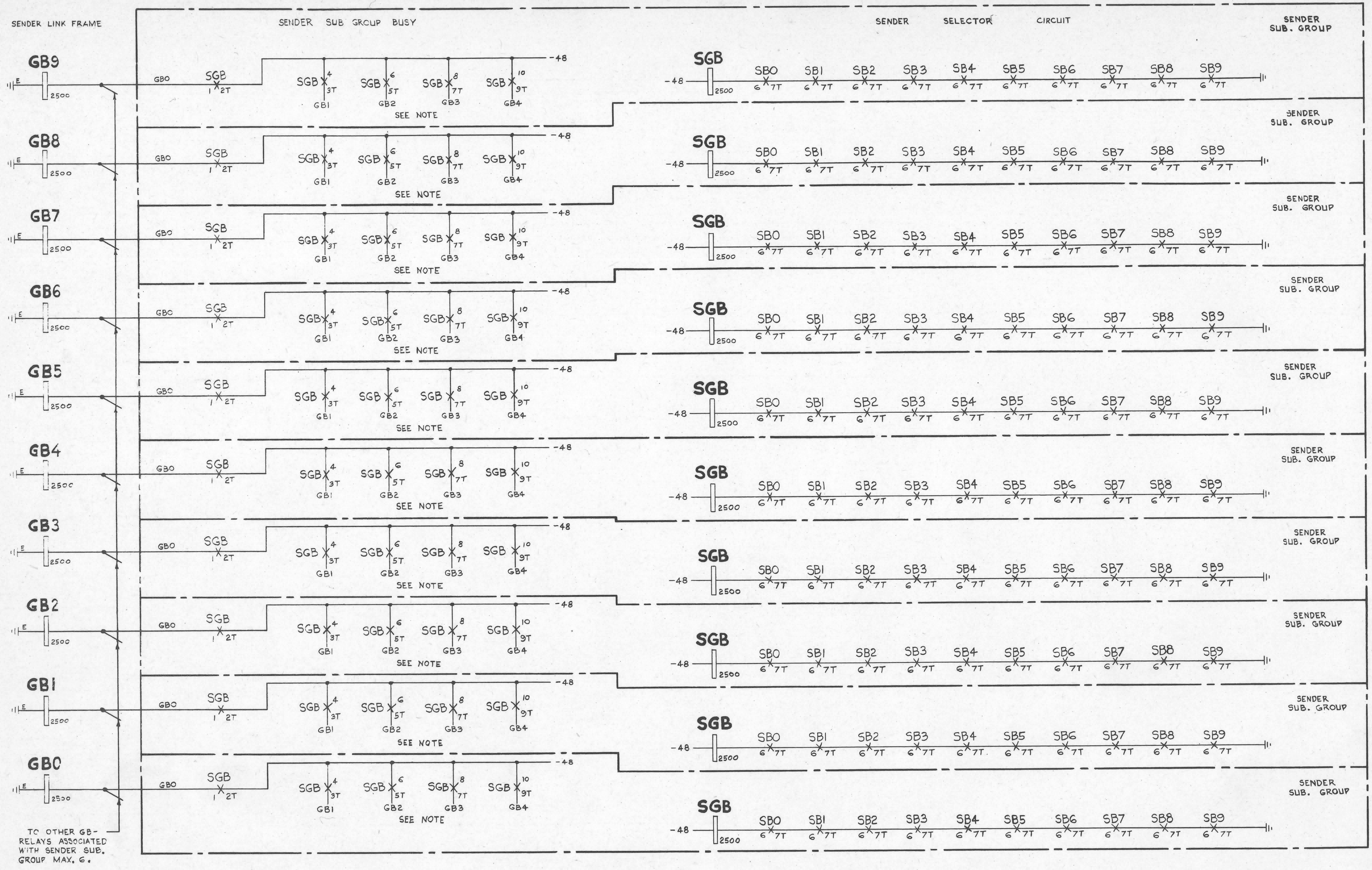
PRINTED IN U.S.A.

LINE LINK AND CONTROLLER
DISTRICT GROUP SELECTION AND
OPERATING LINE LINK FRAME
SELECT MAGNETS

NO. 1 CROSSBAR

OS 108-2

2 SHEETS, SHEET 2



NOTE

EACH GB LEAD IS CONNECTED TO A MAX. OF 6 SEC LINK SWITCH APPEARANCES OF THE SENDER SUB. GROUP.

SUBSCRIBER SENDER LINK AND CONTROLLER CIRCUIT

SENDER GROUP TEST

OS 109-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

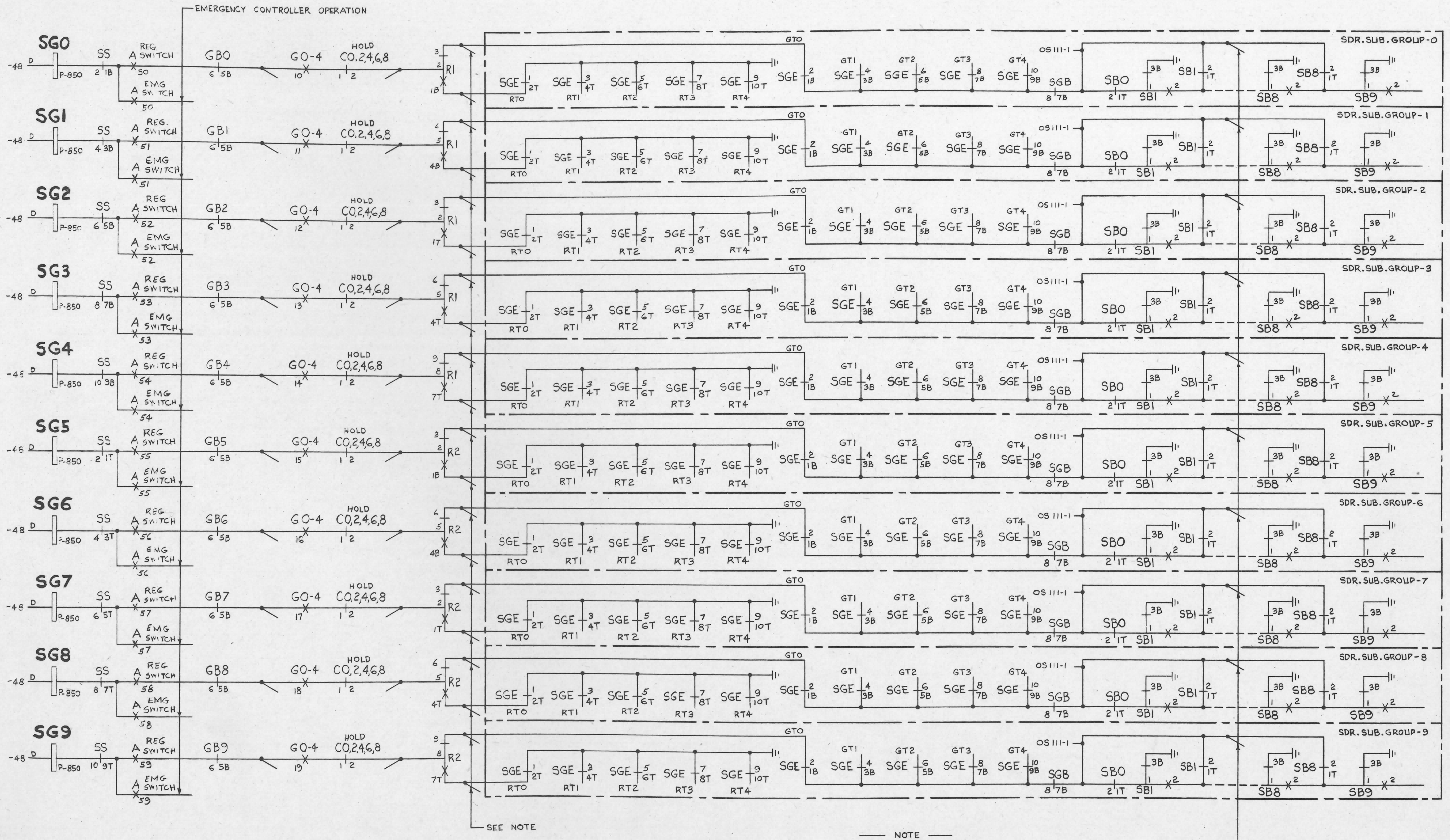
2 SHEETS, SHEET 1

ISSUE	1 N
DATE	4/16-53

38-Y-4136

2 SHEETS, SHEET 2

ISSUE	1				
DATE	12/16/53				



NOTE

EACH GT AND RT LEAD IS CONNECTED TO A MAX. OF 6 SEC. LINK SWITCH APPEARANCES OF THE SENDER SUB. GROUP.

SUBSCRIBER SENDER LINK AND
CONTROLLER CIRCUIT

SENDER GROUP TEST

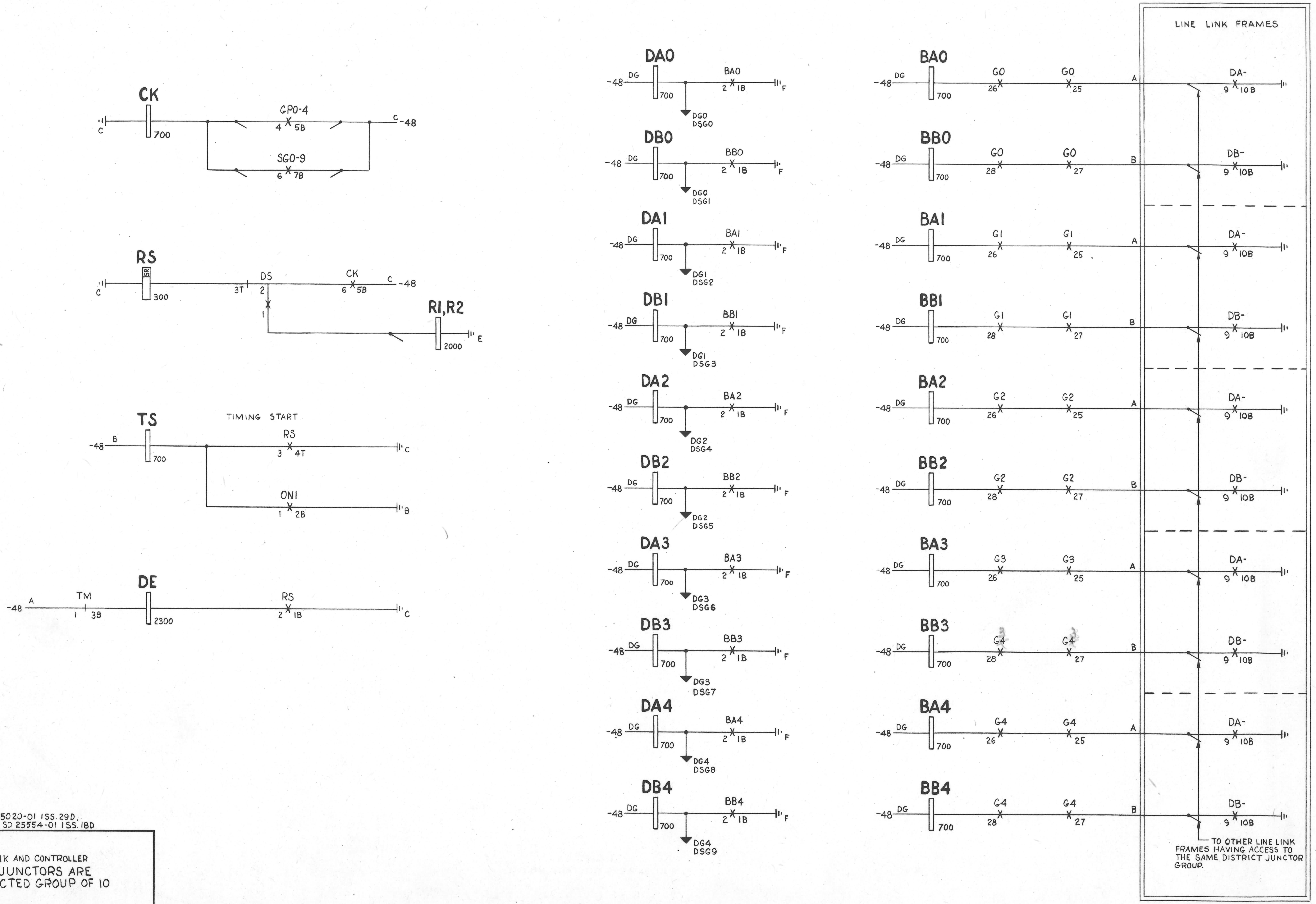
AMERICAN TELEPHONE & TELEGRAPH CO.

NO. 1 CROSSBAR

OS-109-1

2 SHEETS, SHEET 2

PRINTED IN U.S.A.



DISTRICT JUNCTOR CKT. SD 25020-01 ISS. 29D.
* SUB. SDR. LINK & CONTR. CKT. SD 25554-01 ISS. 18D

SUBSCRIBER SENDER LINK AND CONTROLLER
INDICATING WHICH JUNCTORS ARE
IDLE IN THE SELECTED GROUP OF 10

OS 110-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

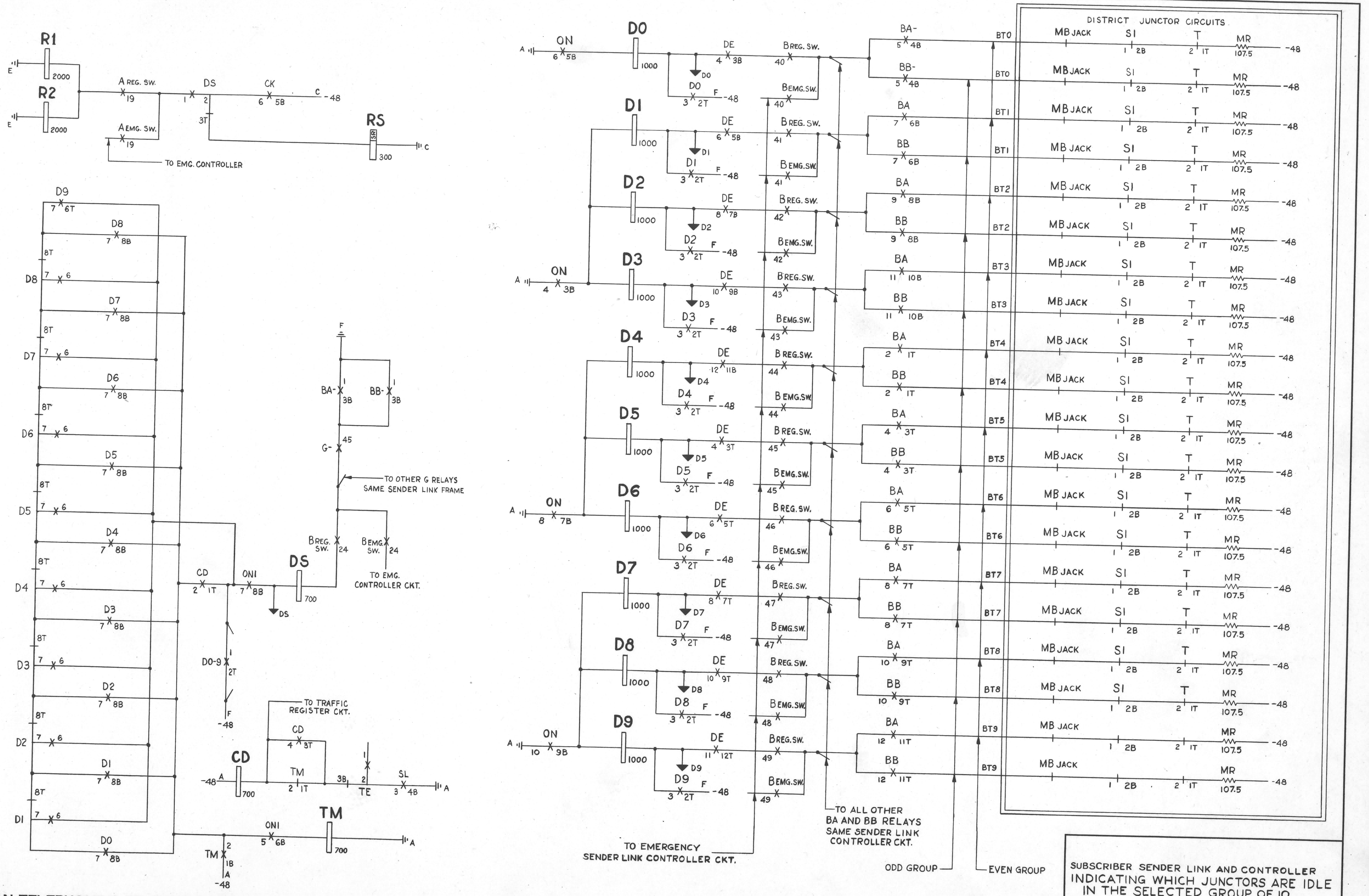
PRINTED IN U. S. A.

ISSUE	1
DATE	12/16/53

2 SHEETS, SHEET 1

38-Y-4160 2 SHEETS, SHEET 2

ISSUE	1
DATE	12/16/53



SUBSCRIBER SENDER LINK AND CONTROLLER INDICATING WHICH JUNCTORS ARE IDLE IN THE SELECTED GROUP OF 10

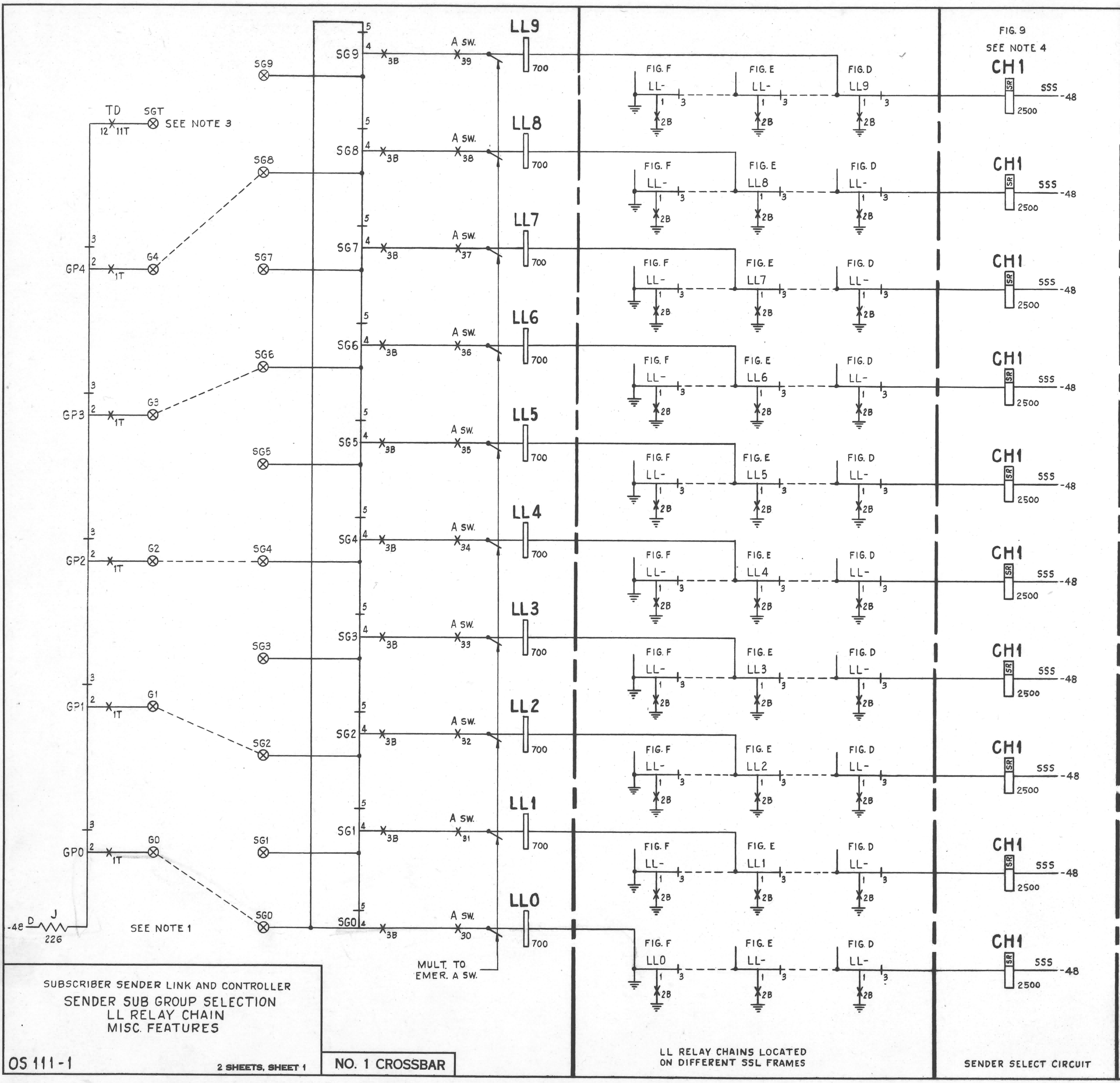
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

NO. 1 CROSSBAR

OS-110-1

2 SHEETS, SHEET 2



LL RELAY CHAINS LOCATED ON DIFFERENT SSL FRAMES

SENDER SELECT CIRCUIT

SUBSCRIBER SENDER LINK AND CONTROLLER

SENDER SUB GROUP SELECTION
LL RELAY CHAIN
MISC. FEATURES

OS 111-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

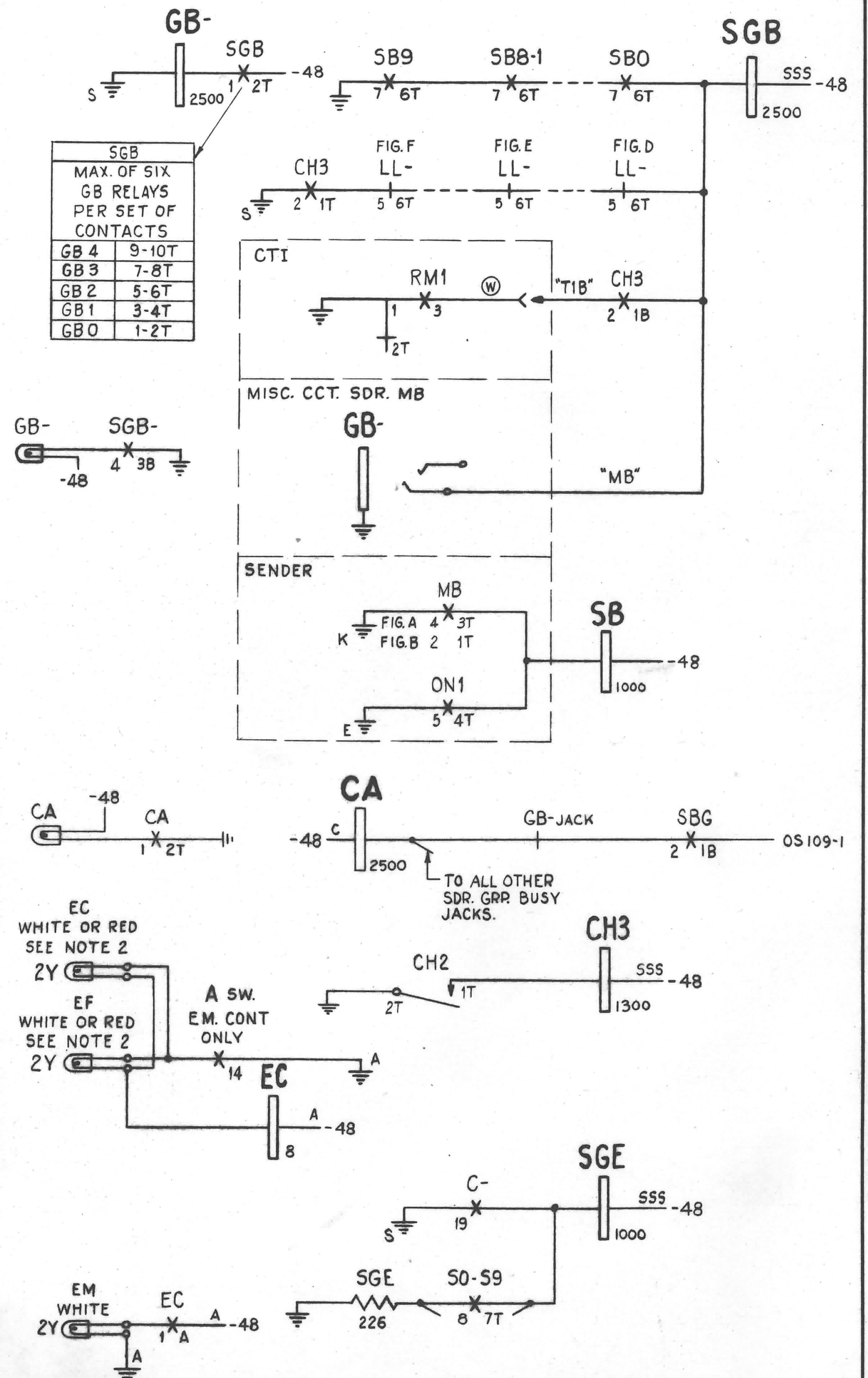
NOTE

1. THE PREFERRED CROSS CONNECTIONS FOR THE G PUNCHINGS TO THE SG PUNCHINGS SHALL BE AS SHOWN THAT IS; G0 TO SG0, G1 TO SG2, G2 TO SG4, G3 TO SG6, AND G4 TO SG8. THESE CROSS CONNECTIONS CAN BE SHIFTED PERIODICALLY TO DISTRIBUTE WEAR, OVER LINK PRIMARY AND SECONDARY SWITCHES. CROSS CONNECT PUNCHINGS G0-4 TO FIVE OF THE SG0-SG9 PUNCHINGS.

2. WHERE THE G TO SG PUNCHING CROSS CONNECTIONS ON A SUB. SENDER LINK CONTROLLER ARE CONNECTED DIFFERENTLY THAN THE EMERGENCY SENDER LINK CONTROLLER, ON THOSE FRAMES A 2H RED LAMP CAP SHALL BE USED FOR THE EC AND EF LAMPS INDICATING THAT THE EMERGENCY CONTROLLER IS NOT TO BE EXERCISED WITH SUCH FRAMES.

3. THE SGT PUNCHING SHALL BE CROSS CONNECTED TO ONE OF THE PUNCHINGS SG0 TO 9 TO GIVE THE DISTRICT JUNCTOR TEST CIRCUIT PREFERENCE IN CHOOSING A SENDER SUB. GROUP.

4. THERE ARE CH1, CH2 AND CH3 RELAYS ASSOCIATED WITH EACH SENDER SUB. GROUP IN A MARKER GROUP.



SGB	
MAX. OF SIX GB RELAYS PER SET OF CONTACTS	
GB 4	9-10T
GB 3	7-8T
GB 2	5-6T
GB 1	3-4T
GB 0	1-2T

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

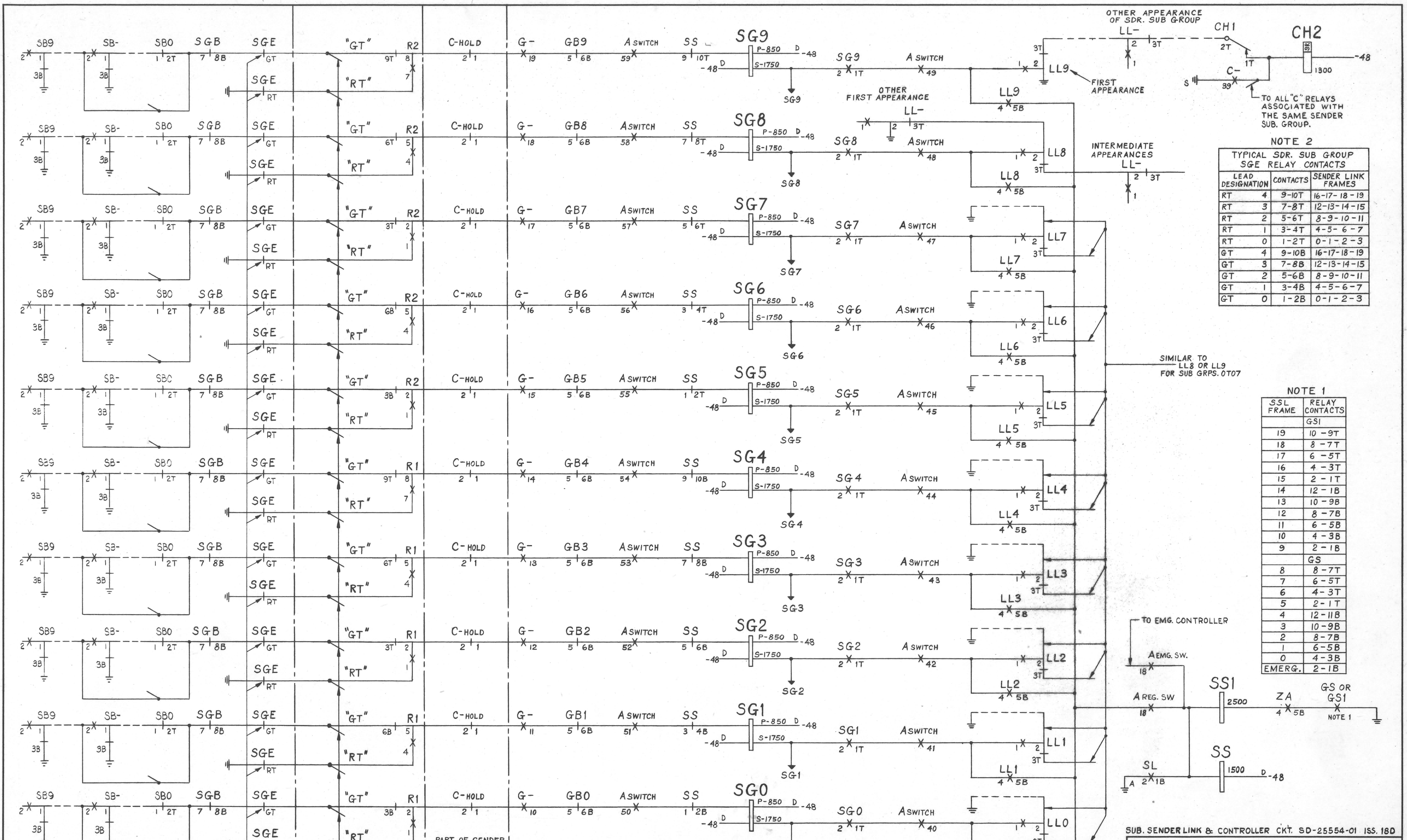
ISSUE	1	
DATE	12/16/53	

2 SHEETS, SHEET 1

38-Y-4163

2 SHEETS, SHEET 2

ISSUE	1
DATE	12/16/63



NOTE 2

TYPICAL SDR. SUB GROUP SGE RELAY CONTACTS			
LEAD DESIGNATION		CONTACTS	SENDER LINK FRAMES
RT	4	9-10T	16-17-18-19
RT	3	7-8T	12-13-14-15
RT	2	5-6T	8-9-10-11
RT	1	3-4T	4-5-6-7
RT	0	1-2T	0-1-2-3
GT	4	9-10B	16-17-18-19
GT	3	7-8B	12-13-14-15
GT	2	5-6B	8-9-10-11
GT	1	3-4B	4-5-6-7
GT	0	1-2B	0-1-2-3

NOTE 1

SSL FRAME	RELAY CONTACTS
	GS1
19	10 -9T
18	8 -7T
17	6 -5T
16	4 -3T
15	2 - 1T
14	12 - 1B
13	10 - 9B
12	8 - 7B
11	6 - 5B
10	4 - 3B
9	2 - 1B
	GS
8	8 - 7T
7	6 - 5T
6	4 - 3T
5	2 - 1T
4	12 - 11B
3	10 - 9B
2	8 - 7B
1	6 - 5B
0	4 - 3B
EMERG.	2 - 1B

SUB. SENDER LINK & CONTROLLER CKT. SD-25554-01 ISS. 18D

SUBSCRIBER SENDER LINK AND CONTROLLER
SENDER SUB GROUP TEST
SENDER SUB GROUP SELECTION

AMERICAN TELEPHONE & TELEGRAPH CO.

NO. 1 CROSSBAR

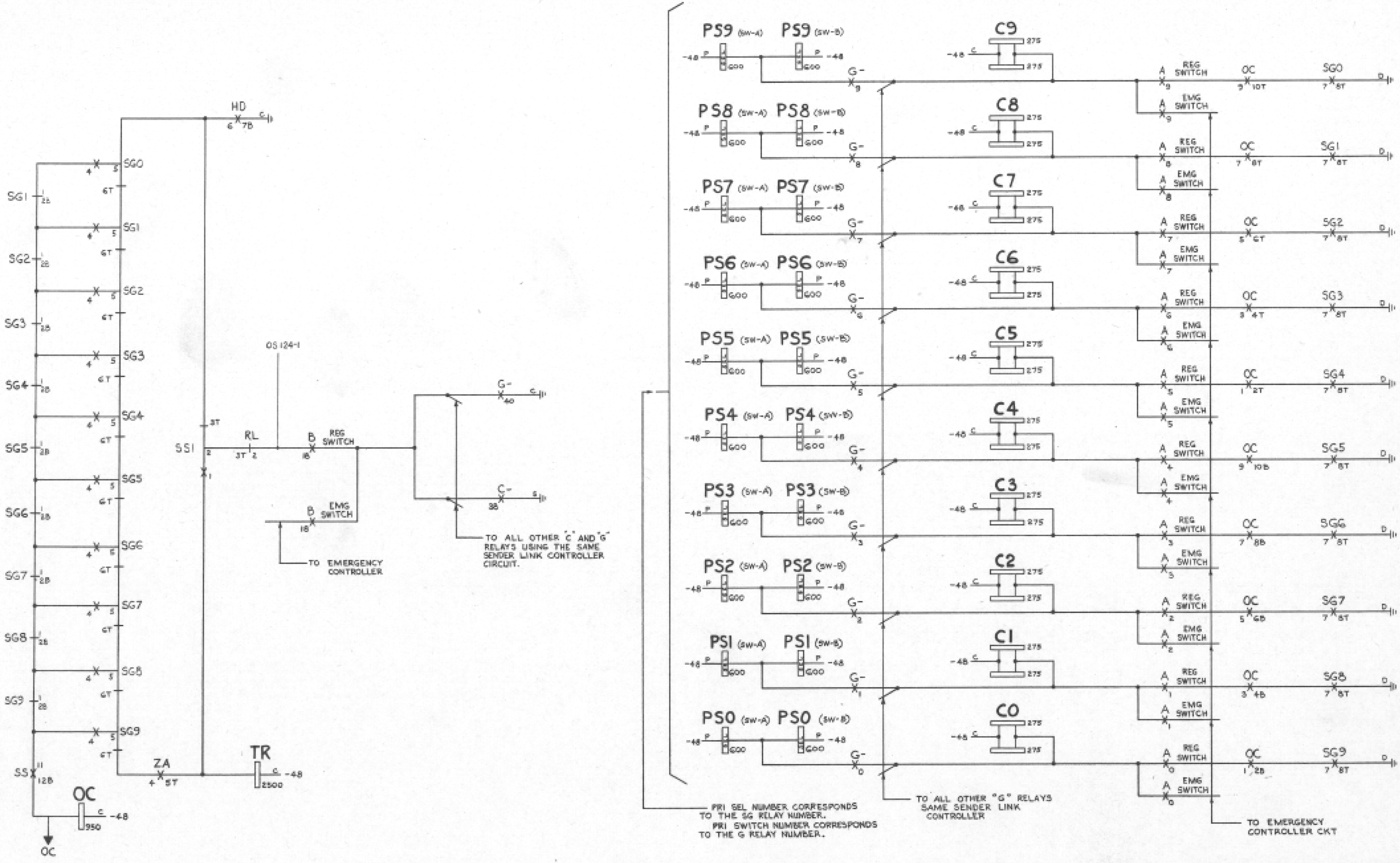
OS 111 -1

2 SHEETS, SHEET 2

PRINTED IN U.S.A.

38-Y-4114

ISSUE	DATE
1	[illegible]



SUBSCRIBER SEND-LINK AND CONT. SD25554-01 ISS 18D

SUBSCRIBER SENDER LINK
AND CONTROLLER CIRCUIT

OPERATION OF SUB GROUP CONNECTOR RELAY AND PRIMARY SELECT MAGNETS

NO. 1 CROSSBAR

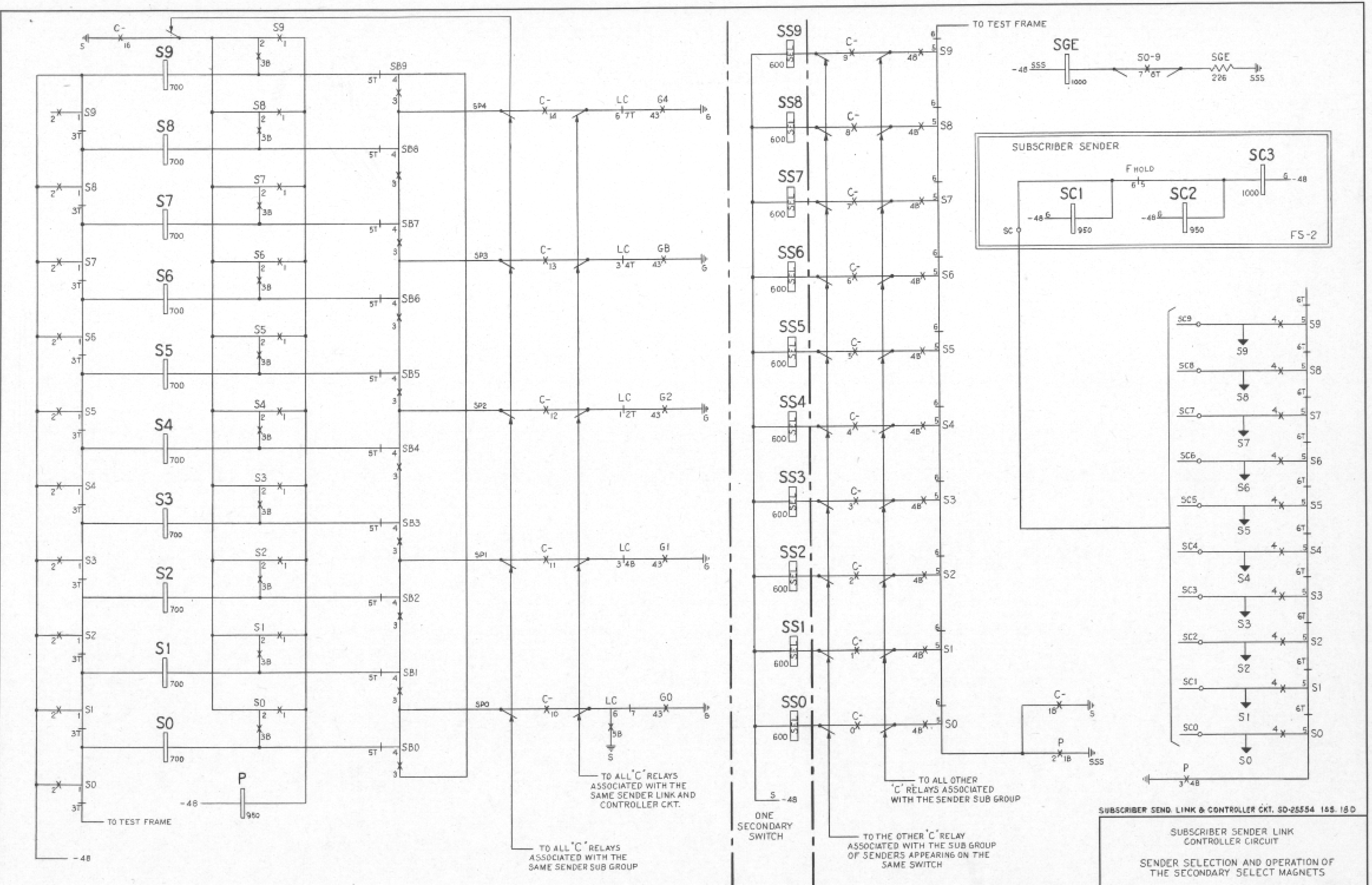
OS 112-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4144

ISSUE	DATE
1	[illegible]



S9
S8
S7
S6
S5
S4
S3
S2
S1
S0
700
P
950
-48
TO TEST FRAME
SB9
SB8
SB7
SB6
SB5
SB4
SB3
SB2
SB1
SB0
SP4
SP3
SP2
SP1
SP0
C-
LC
G4
G3
G2
G1
G0
TO ALL "C" RELAYS ASSOCIATED WITH THE SAME SENDER LINK AND CONTROLLER CKT.
TO ALL "C" RELAYS ASSOCIATED WITH THE SAME SENDER SUB GROUP
SS9
SS8
SS7
SS6
SS5
SS4
SS3
SS2
SS1
SS0
600
ONE SECONDARY SWITCH
TO THE OTHER "C" RELAY ASSOCIATED WITH THE SUB GROUP OF SENDERS APPEARING ON THE SAME SWITCH
TO ALL OTHER "C" RELAYS ASSOCIATED WITH THE SENDER SUB GROUP
TO TEST FRAME
SGE
1000
S0-9
226
SSS
SUBSCRIBER SENDER
SC1
SC2
SC3
F HOLD
950
1000
SC
FS-2
SC9
SC8
SC7
SC6
SC5
SC4
SC3
SC2
SC1
SC0

SUBSCRIBER SEND. LINK & CONTROLLER CKT. SD-25554 ISS. 18D

SUBSCRIBER SENDER LINK
CONTROLLER CIRCUIT

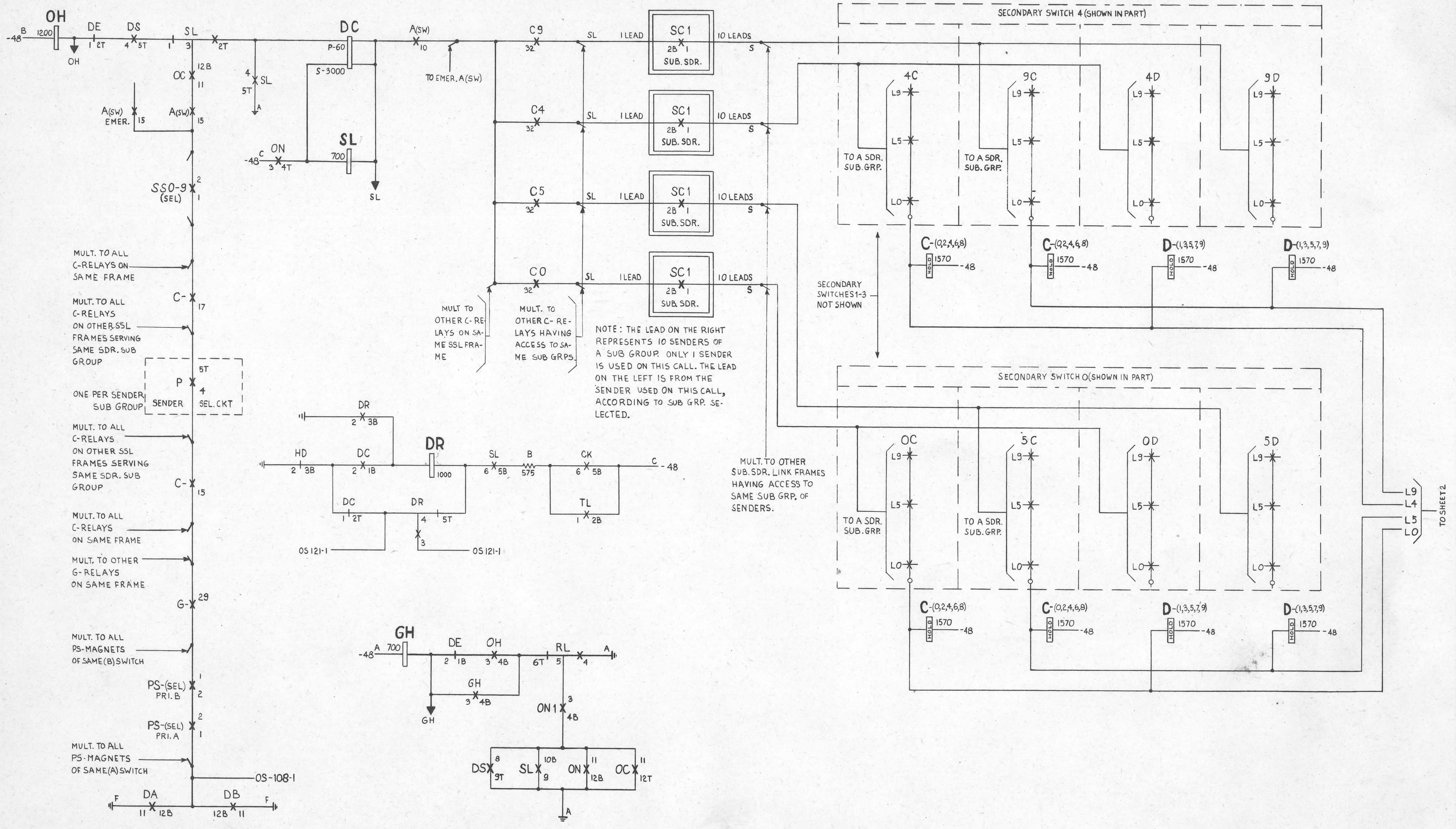
SENDER SELECTION AND OPERATION OF
THE SECONDARY SELECT MAGNETS

NO. 1 CROSSBAR

OS-113-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.


NOTE: THE LEAD ON THE RIGHT REPRESENTS 10 SENDERS OF A SUB GROUP. ONLY 1 SENDER IS USED ON THIS CALL. THE LEAD ON THE LEFT IS FROM THE SENDER USED ON THIS CALL, ACCORDING TO SUB GRP. SELECTED.

OH
DE
DS
SL
DC
A(SW)
C9
SC1
SUB. SDR.
1 LEAD
10 LEADS
TO EMER. A(SW)
C4
C5
C0
SL
ON
A(SW) EMER.
OC
SS0-9 (SEL)
MULT. TO ALL C-RELAYS ON SAME FRAME
MULT. TO ALL C-RELAYS ON OTHER SSL FRAMES SERVING SAME SDR. SUB GROUP
ONE PER SENDER SUB GROUP
SENDER
SEL. CKT
MULT. TO ALL C-RELAYS ON OTHER SSL FRAMES SERVING SAME SDR. SUB GROUP
MULT. TO ALL C-RELAYS ON SAME FRAME
MULT. TO OTHER G-RELAYS ON SAME FRAME
G-
MULT. TO ALL PS-MAGNETS OF SAME (B) SWITCH
PS-(SEL) PRI. B
PS-(SEL) PRI. A
MULT. TO ALL PS-MAGNETS OF SAME (A) SWITCH
OS-108-1
DA
DB
MULT TO OTHER C-RELAYS ON SAME SSL FRAME
MULT. TO OTHER C-RELAYS HAVING ACCESS TO SAME SUB GRPS.
DR
HD
B
CK
TL
OS 121-1
OS 121-1
MULT. TO OTHER SUB. SDR. LINK FRAMES HAVING ACCESS TO SAME SUB GRP. OF SENDERS.
GH
RL
ON1
DS
SL
ON
OC
SECONDARY SWITCH 4 (SHOWN IN PART)
4C
9C
4D
9D
L9
L5
L0
TO A SDR. SUB. GRP.
C-(0,2,4,6,8)
D-(1,3,5,7,9)
HOLD
1570
-48
SECONDARY SWITCHES 1-3 NOT SHOWN
SECONDARY SWITCH 0 (SHOWN IN PART)
0C
5C
0D
5D
L9
L4
L5
L0
TO SHEET 2

SUBSCRIBERS SENDER LINK FRAME

OPERATING PRIMARY AND SECONDARY HOLD MAGNETS. CHECKING OPERATION AND DOUBLE CONNECTION TEST.

OS 114-1

2 SHEETS, SHEET 1

SD 25012-01 ISS 71D
✱ SD 25554-01 ISS 18D

NO.1 CROSSBAR

ISSUE	1
DATE	12/4/53

2 SHEETS, SHEET 1

38-Y-4115

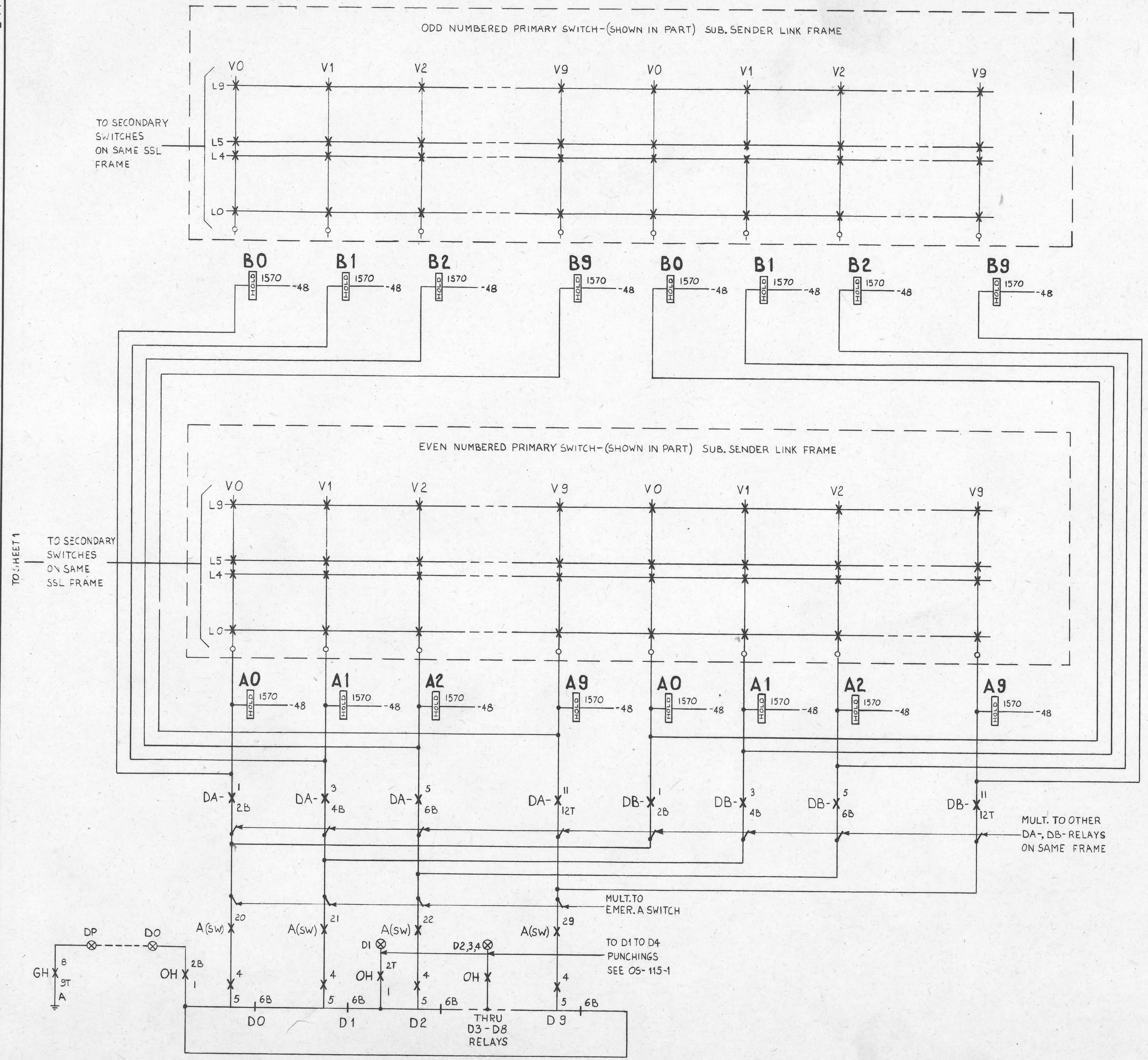
AMERICAN TELEPHONE & TELEGRAPH CO.

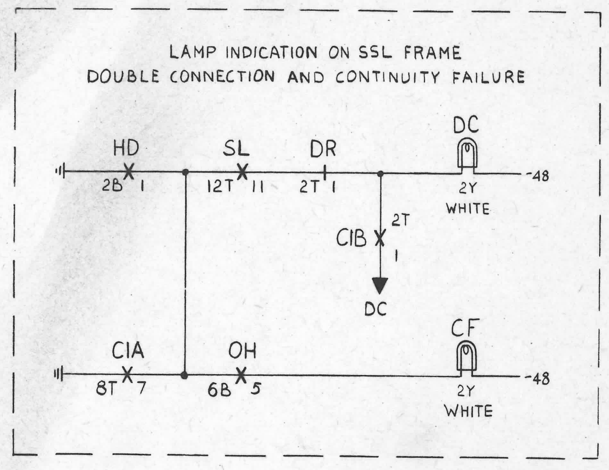
PRINTED IN U. S. A.

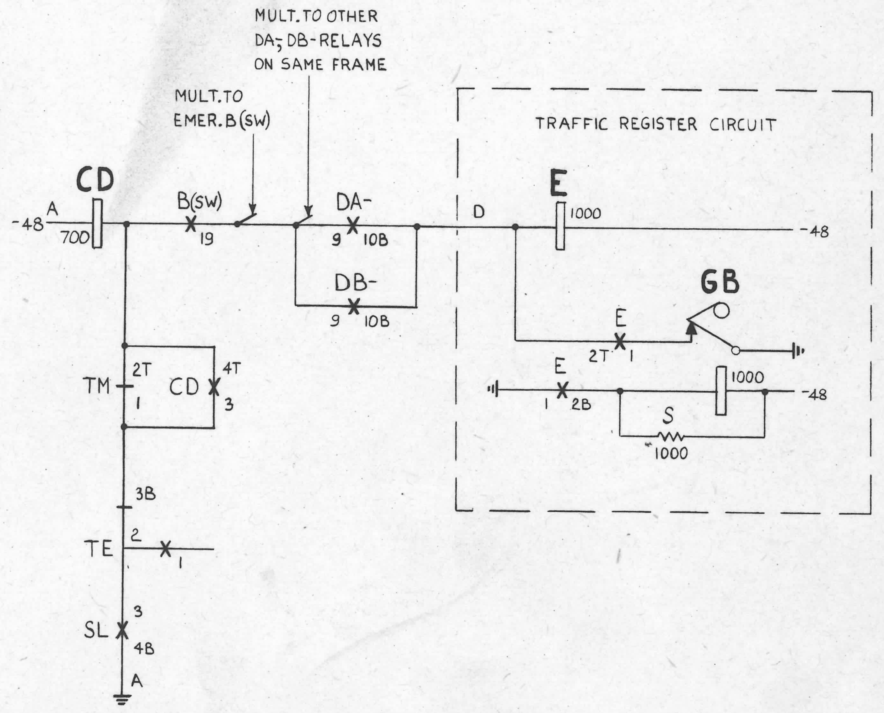
38-Y-4115

2 SHEETS, SHEET 2

ISSUE	DATE
1	12/16/53


ODD NUMBERED PRIMARY SWITCH-(SHOWN IN PART) SUB. SENDER LINK FRAME
V0
V1
V2
V9
V0
V1
V2
V9
L9
L5
L4
L0
TO SECONDARY SWITCHES ON SAME SSL FRAME
B0
B1
B2
B9
B0
B1
B2
B9
HOLD
1570
-48
EVEN NUMBERED PRIMARY SWITCH-(SHOWN IN PART) SUB. SENDER LINK FRAME
TO SHEET 1
TO SECONDARY SWITCHES ON SAME SSL FRAME
A0
A1
A2
A9
A0
A1
A2
A9
DA- 1 2B
DA- 3 4B
DA- 5 6B
DA- 11 12T
DB- 1 2B
DB- 3 4B
DB- 5 6B
DB- 11 12T
MULT. TO OTHER DA-, DB- RELAYS ON SAME FRAME
MULT. TO EMER. A SWITCH
A(SW) 20
A(SW) 21
A(SW) 22
A(SW) 29
4
DP
DO
GH 8 9T A
OH 2B 1
D1
OH 2T 1
D2,3,4
OH
TO D1 TO D4 PUNCHINGS SEE OS-115-1
5
6B
D0
D1
D2
THRU D3-D8 RELAYS
D9





TRAFFIC REGISTER CKT. SD 25317-01 ISS 39D
* SUBSCRIBER SENDER LINK AND CONTROLLER SD 25554-01 ISS 18D

SUBSCRIBER SENDER LINK FRAME

OPERATING PRIMARY AND SECONDARY
HOLD MAGNETS.
CHECKING OPERATION AND
DOUBLE CONNECTION TEST.

NO.1 CROSSBAR

OS 114-1

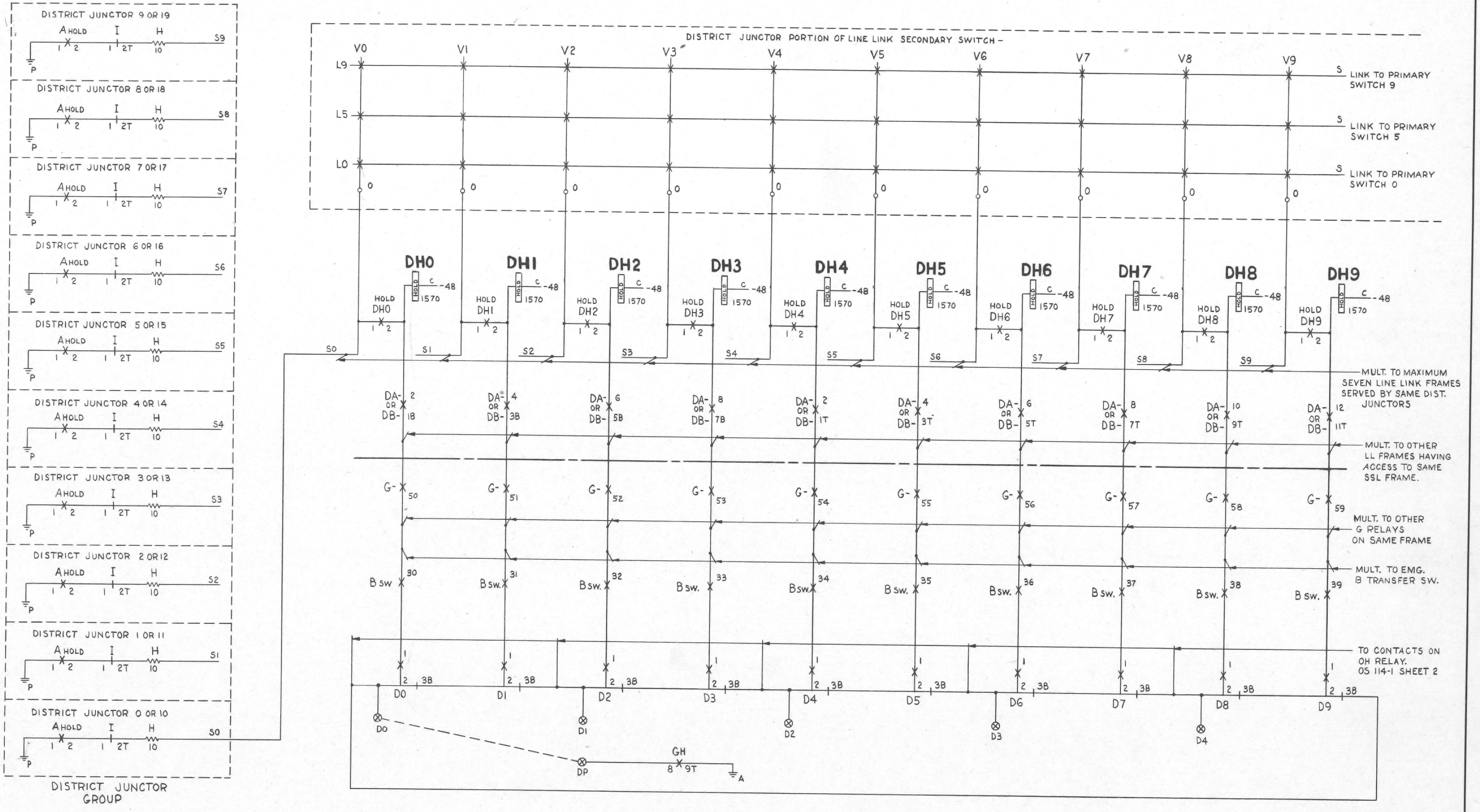
2 SHEETS, SHEET 2

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4124

ISSUE	1			
DATE	12/16/53			



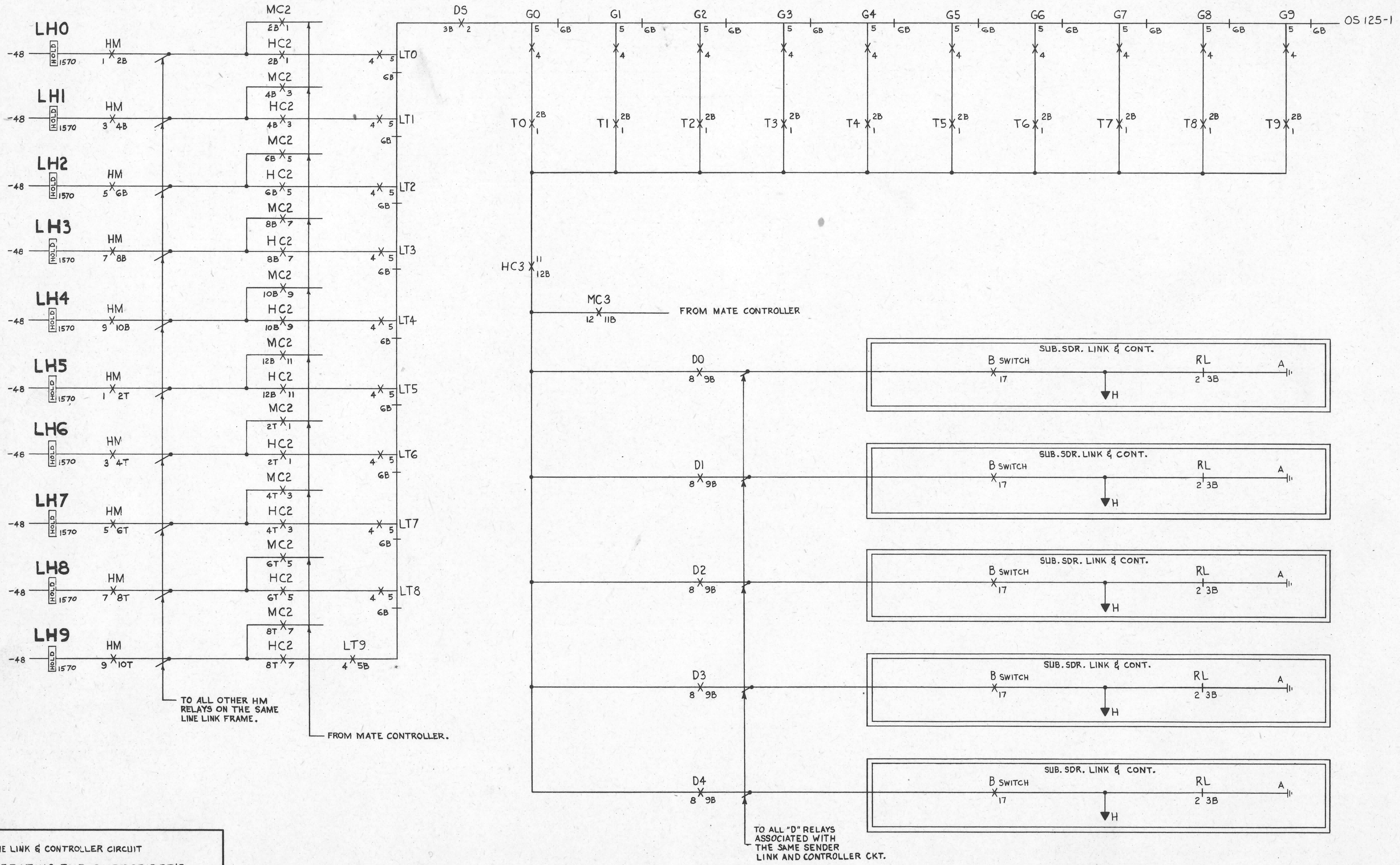
SD-25553-01 ISS.16B
SD-25020-01 ISS.29D
* SD-25554-01 ISS.18D

SUBSCRIBER SENDER LINK AND CONTROLLER
DISTRICT JUNCTOR SELECTION
AND OPERATING SECONDARY
DISTRICT HOLD MAGNETS

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

NO. 1 CROSSBAR OS 115-1



LINE LINK & CONTROLLER CIRCUIT

OPERATING THE SUBSCRIBER'S
LINE HOLD MAGNET

OS 116-1

2 SHEETS, SHEET 1

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

38-Y-4117

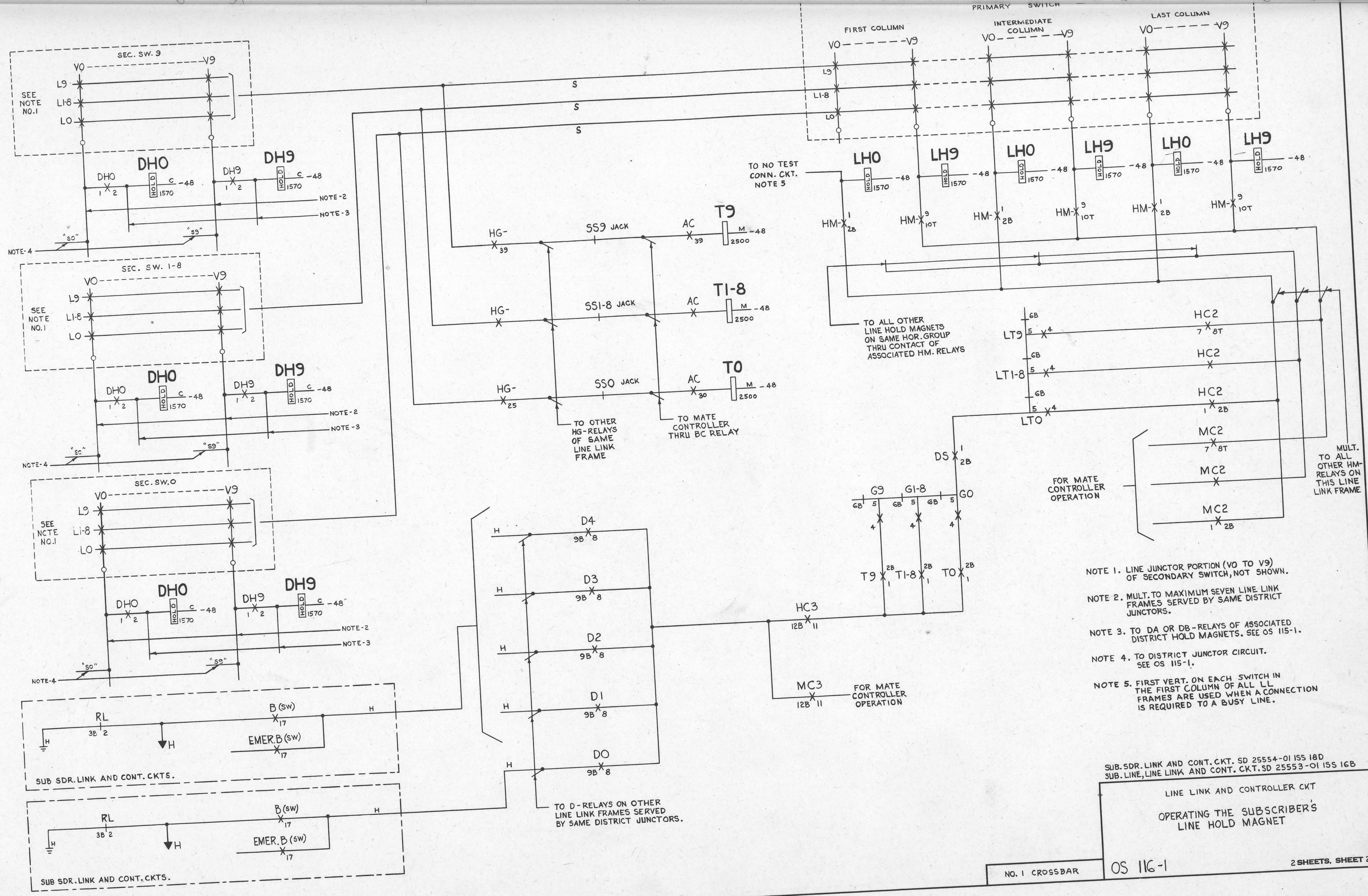
2 SHEETS, SHEET 1

ISSUE	1
DATE	12/16/63
	LJR

38-Y-4117

2 SHEETS, SHEET 2

ISSUE	1	
DATE	12/16/63	


PRIMARY SWITCH
FIRST COLUMN
INTERMEDIATE COLUMN
LAST COLUMN
V0 - V9
L9
L1-8
L0
SEC. SW. 9
SEC. SW. 1-8
SEC. SW. 0
SEE NOTE NO. 1
S
DH0
DH9
HOLD
1570
C
-48
NOTE-2
NOTE-3
NOTE-4
"S0"
"S9"
HG-
39
25
SS9 JACK
SS1-8 JACK
SS0 JACK
AC
T9
T1-8
T0
M
2500
TO OTHER HG-RELAYS OF SAME LINE LINK FRAME
TO MATE CONTROLLER THRU BC RELAY
TO NO TEST CONN. CKT. NOTE 5
LH0
LH9
HM-
1 2B
9 10T
TO ALL OTHER LINE HOLD MAGNETS ON SAME HOR. GROUP THRU CONTACT OF ASSOCIATED HM. RELAYS
LT9
LT1-8
LT0
6B
5
4
HC2
7 8T
1 2B
MC2
FOR MATE CONTROLLER OPERATION
MULT. TO ALL OTHER HM-RELAYS ON THIS LINE LINK FRAME
DS
G9
G1-8
G0
H
D4
D3
D2
D1
D0
9B 8
TO D-RELAYS ON OTHER LINE LINK FRAMES SERVED BY SAME DISTRICT JUNCTORS.
HC3
12B 11
MC3
FOR MATE CONTROLLER OPERATION
RL
3B 2
B (SW)
17
EMER. B (SW)
SUB SDR. LINK AND CONT. CKTS.

NOTE 1. LINE JUNCTOR PORTION (V0 TO V9) OF SECONDARY SWITCH, NOT SHOWN.

NOTE 2. MULT. TO MAXIMUM SEVEN LINE LINK FRAMES SERVED BY SAME DISTRICT JUNCTORS.

NOTE 3. TO DA OR DB-RELAYS OF ASSOCIATED DISTRICT HOLD MAGNETS. SEE OS 115-1.

NOTE 4. TO DISTRICT JUNCTOR CIRCUIT. SEE OS 115-1.

NOTE 5. FIRST VERT. ON EACH SWITCH IN THE FIRST COLUMN OF ALL LL FRAMES ARE USED WHEN A CONNECTION IS REQUIRED TO A BUSY LINE.

SUB. SDR. LINK AND CONT. CKT. SD 25554-01 ISS 18D
SUB. LINE, LINE LINK AND CONT. CKT. SD 25553-01 ISS 16B

LINE LINK AND CONTROLLER CKT

OPERATING THE SUBSCRIBER'S
LINE HOLD MAGNET

NO. 1 CROSSBAR

OS 116-1

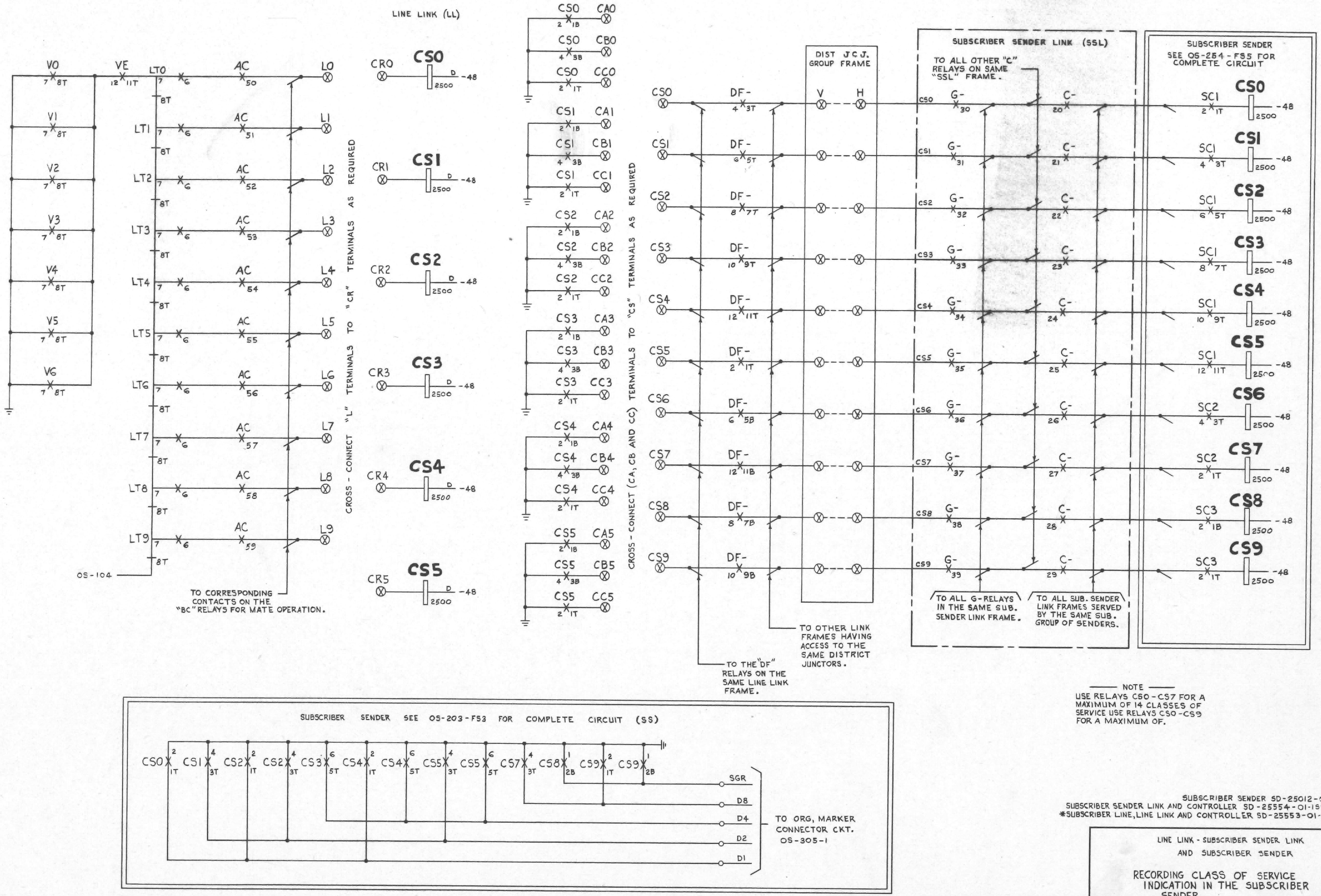
2 SHEETS, SHEET 2

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

36-Y-4121

ISSUE	DATE
1 LJR	[illegible]


LINE LINK (LL)
V0 V1 V2 V3 V4 V5 V6
VE
LT0 LT1 LT2 LT3 LT4 LT5 LT6 LT7 LT8 LT9
AC
L0 L1 L2 L3 L4 L5 L6 L7 L8 L9
OS-104
TO CORRESPONDING CONTACTS ON THE "BC" RELAYS FOR MATE OPERATION.
CROSS - CONNECT "L" TERMINALS TO "CR" TERMINALS AS REQUIRED
CR0 CR1 CR2 CR3 CR4 CR5
CS0 CS1 CS2 CS3 CS4 CS5
2500
-48
CA0 CB0 CC0 CA1 CB1 CC1 CA2 CB2 CC2 CA3 CB3 CC3 CA4 CB4 CC4 CA5 CB5 CC5
CROSS - CONNECT (CA, CB AND CC) TERMINALS TO "CS" TERMINALS AS REQUIRED
CS0 CS1 CS2 CS3 CS4 CS5 CS6 CS7 CS8 CS9
DF-
DIST JCJ. GROUP FRAME
V H
SUBSCRIBER SENDER LINK (SSL)
TO ALL OTHER "C" RELAYS ON SAME "SSL" FRAME.
G-
C-
TO ALL G-RELAYS IN THE SAME SUB. SENDER LINK FRAME.
TO ALL SUB. SENDER LINK FRAMES SERVED BY THE SAME SUB. GROUP OF SENDERS.
TO OTHER LINK FRAMES HAVING ACCESS TO THE SAME DISTRICT JUNCTORS.
TO THE "DF" RELAYS ON THE SAME LINE LINK FRAME.
SUBSCRIBER SENDER SEE OS-254-FS5 FOR COMPLETE CIRCUIT
SC1 SC2 SC3
SUBSCRIBER SENDER SEE OS-203-FS3 FOR COMPLETE CIRCUIT (SS)
SGR
D8
D4
D2
D1
TO ORG. MARKER CONNECTOR CKT. OS-305-1

— NOTE —
USE RELAYS CS0 - CS7 FOR A MAXIMUM OF 14 CLASSES OF SERVICE USE RELAYS CS0 - CS9 FOR A MAXIMUM OF.

SUBSCRIBER SENDER SD-25012-01-ISSUE-7ID
SUBSCRIBER SENDER LINK AND CONTROLLER SD-25554-01-ISSUE-18D
*SUBSCRIBER LINE, LINE LINK AND CONTROLLER SD-25553-01-ISSUE-16B

LINE LINK - SUBSCRIBER SENDER LINK
AND SUBSCRIBER SENDER

RECORDING CLASS OF SERVICE
INDICATION IN THE SUBSCRIBER
SENDER.

NO. 1 CROSSBAR

OS 117-1

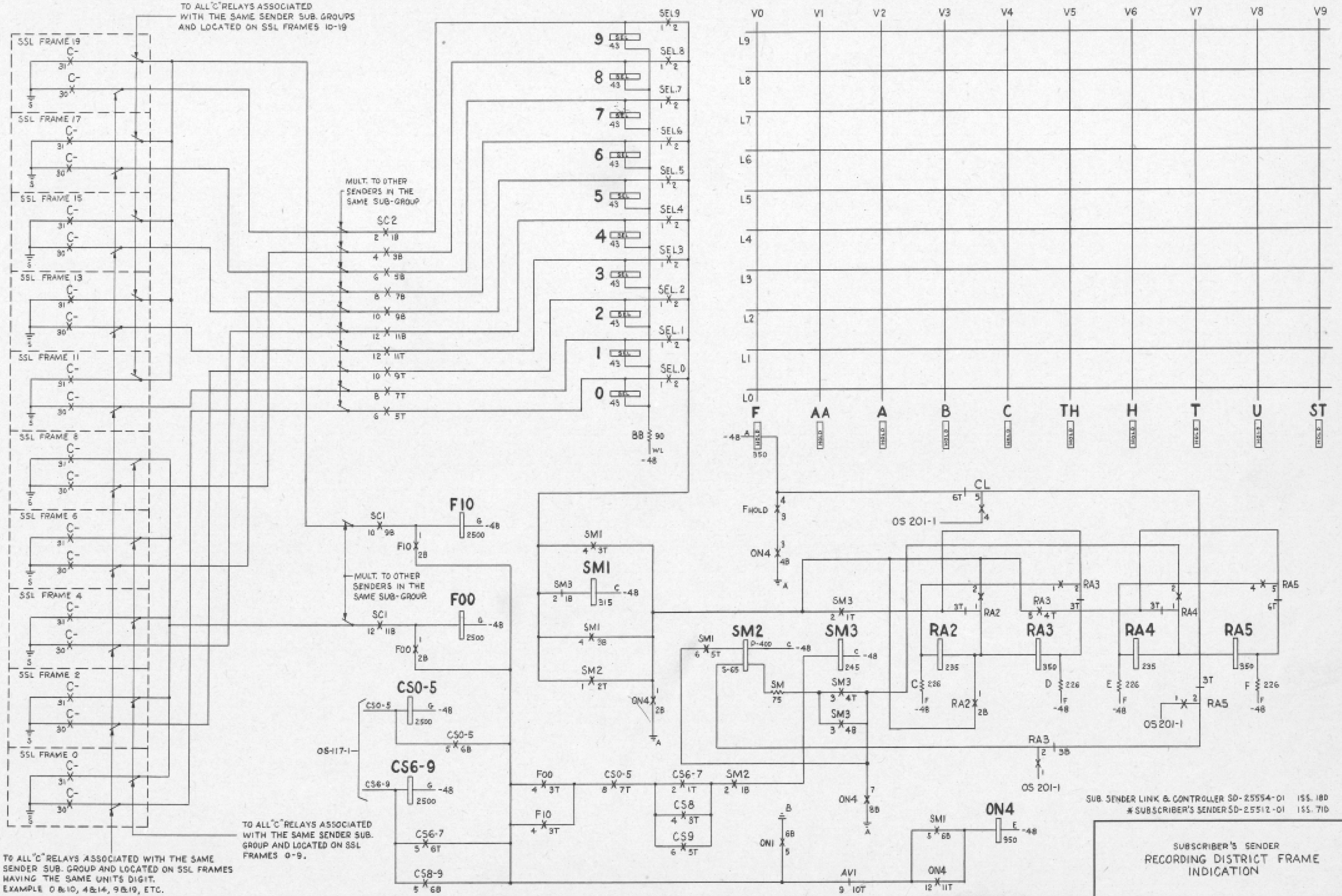
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4120

ISSUE 1

DATE


TO ALL "C" RELAYS ASSOCIATED WITH THE SAME SENDER SUB. GROUPS AND LOCATED ON SSL FRAMES 10-19
SSL FRAME 19
SSL FRAME 17
SSL FRAME 15
SSL FRAME 13
SSL FRAME 11
SSL FRAME 8
SSL FRAME 6
SSL FRAME 4
SSL FRAME 2
SSL FRAME 0
C-
31
30
MULT. TO OTHER SENDERS IN THE SAME SUB-GROUP
SC2
SEL9
SEL.8
SEL.7
SEL.6
SEL.5
SEL.4
SEL.3
SEL.2
SEL.1
SEL.0
9
8
7
6
5
4
3
2
1
0
43
BB 90
WL
-48
V0
V1
V2
V3
V4
V5
V6
V7
V8
V9
L9
L8
L7
L6
L5
L4
L3
L2
L1
L0
F
AA
A
B
C
TH
H
T
U
ST
HOLD
350
FHOLD
CL
OS 201-1
ON4
SC1
F10
2500
-48
MULT. TO OTHER SENDERS IN THE SAME SUB-GROUP
F00
SM1
SM3
315
SM2
CS0-5
CS6-9
OS-117-1
CS6-7
CS8
CS9
F00
F10
SM2
SM3
245
RA2
RA3
RA4
RA5
235
350
226
RA5
OS 201-1
RA3
OS 201-1
ON4
ON1
AV1
SM1
ON4
950
TO ALL "C" RELAYS ASSOCIATED WITH THE SAME SENDER SUB. GROUP AND LOCATED ON SSL FRAMES 0-9.
TO ALL "C" RELAYS ASSOCIATED WITH THE SAME SENDER SUB. GROUP AND LOCATED ON SSL FRAMES HAVING THE SAME UNITS DIGIT. EXAMPLE 0&10, 4&14, 9&19, ETC.

SUB. SENDER LINK & CONTROLLER SD-25554-01 ISS. 18D
* SUBSCRIBER'S SENDER SD-25512-01 ISS. 71D

SUBSCRIBER'S SENDER
RECORDING DISTRICT FRAME
INDICATION

NO. 1 CROSSBAR

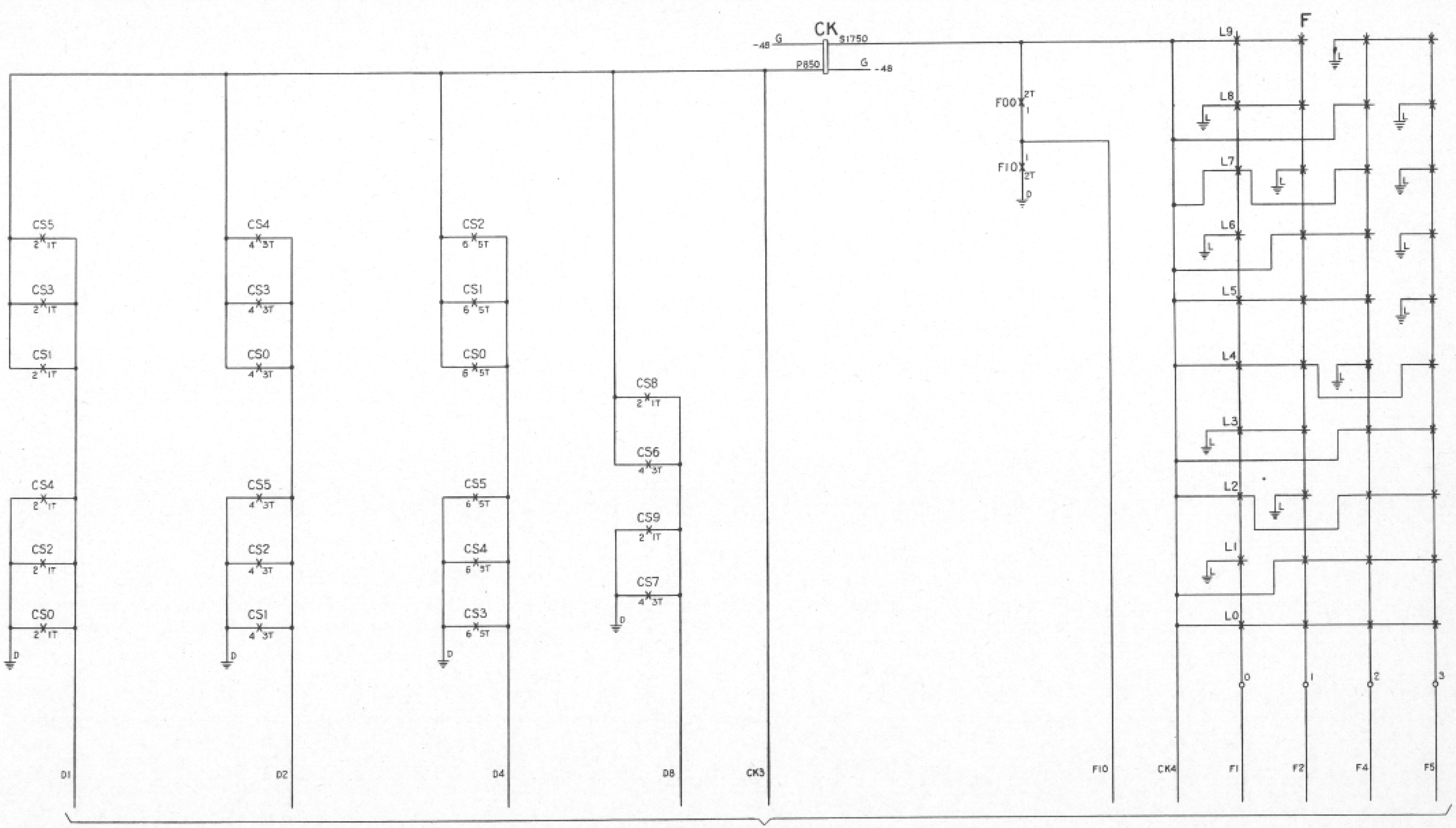
OS 118-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4161

ISSUE	DATE
1	[illegible]



TO ORIGINATING MARKER CONNECTOR CIRCUIT
(SHOW IN PART)

SUBSCRIBER SENDER CIRCUIT SD 25012-01 ISS. 71D

SUBSCRIBERS SENDER

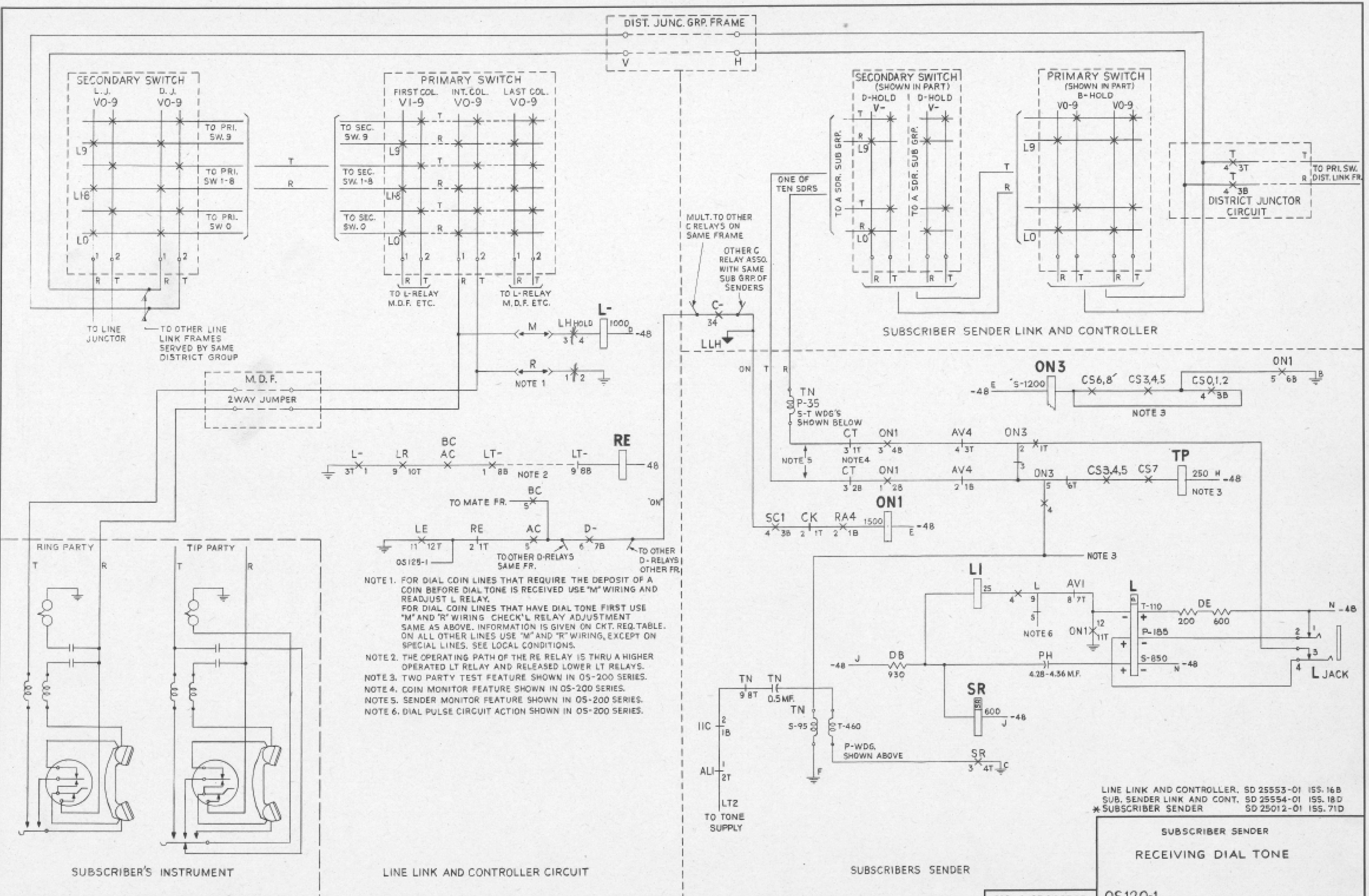
CHECKING REGISTRATION OF
CLASS OF SERVICE AND
DISTRICT FRAME RELAYS

NO. 1 CROSSBAR OS 119-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4162



NOTE 1. FOR DIAL COIN LINES THAT REQUIRE THE DEPOSIT OF A COIN BEFORE DIAL TONE IS RECEIVED USE "M" WIRING AND READJUST L RELAY.
FOR DIAL COIN LINES THAT HAVE DIAL TONE FIRST USE "M" AND "R" WIRING CHECK 'L RELAY ADJUSTMENT SAME AS ABOVE. INFORMATION IS GIVEN ON CKT. REQ. TABLE. ON ALL OTHER LINES USE "M" AND "R" WIRING, EXCEPT ON SPECIAL LINES. SEE LOCAL CONDITIONS.

NOTE 2. THE OPERATING PATH OF THE RE RELAY IS THRU A HIGHER OPERATED LT RELAY AND RELEASED LOWER LT RELAYS.

NOTE 3. TWO PARTY TEST FEATURE SHOWN IN OS-200 SERIES.

NOTE 4. COIN MONITOR FEATURE SHOWN IN OS-200 SERIES.

NOTE 5. SENDER MONITOR FEATURE SHOWN IN OS-200 SERIES.

NOTE 6. DIAL PULSE CIRCUIT ACTION SHOWN IN OS-200 SERIES.

LINE LINK AND CONTROLLER.	SD 25553-01	ISS. 16B
SUB. SENDER LINK AND CONT.	SD 25554-01	ISS. 18D
*SUBSCRIBER SENDER	SD 25012-01	ISS. 71D

SUBSCRIBER SENDER

RECEIVING DIAL TONE

NO. 1 CROSSBAR

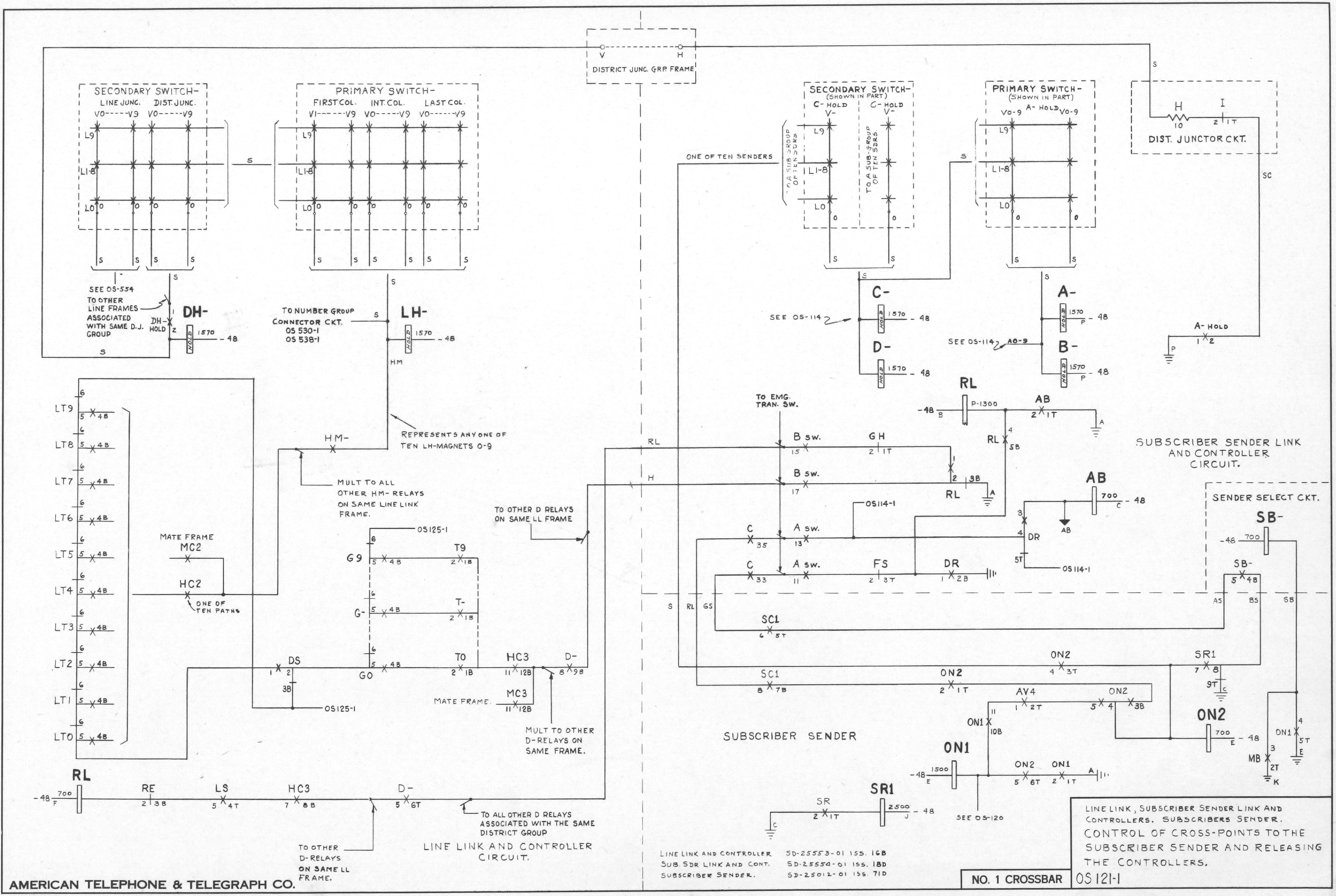
OS120-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4134

ISSUE	DATE
1	12/17/53



LINE LINK AND CONTROLLER	SD-25553-01 ISS. 16B
SUB. SDR LINK AND CONT.	SD-25554-01 ISS. 18D
SUBSCRIBER SENDER.	SD-25012-01 ISS. 71D

LINE LINK, SUBSCRIBER SENDER LINK AND CONTROLLERS. SUBSCRIBERS SENDER.

CONTROL OF CROSS-POINTS TO THE SUBSCRIBER SENDER AND RELEASING THE CONTROLLERS.

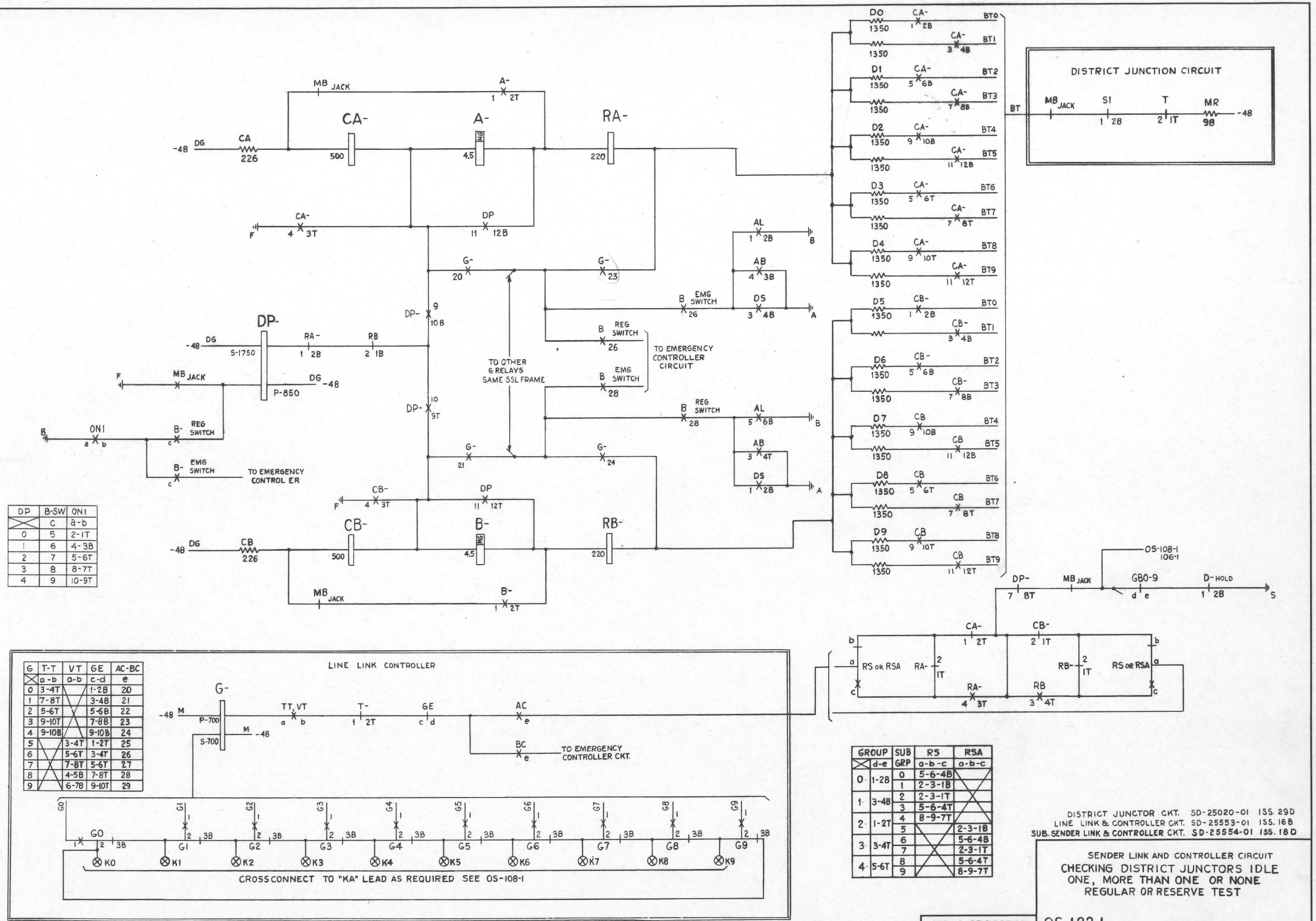
NO. 1 CROSSBAR OS 121-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

38-Y-4145

ISSUE	1				
DATE	12/14/53				



DP	B-SW	ON1
╳	C	a-b
0	5	2-1T
1	6	4-3B
2	7	5-6T
3	8	8-7T
4	9	10-9T

G	T-T	VT	GE	AC-BC
╳	a-b	a-b	c-d	e
0	3-4T	╳	1-2B	20
1	7-8T		3-4B	21
2	5-6T		5-6B	22
3	9-10T		7-8B	23
4	9-10B		9-10B	24
5	╳	3-4T	1-2T	25
6		5-6T	3-4T	26
7		7-8T	5-6T	27
8		4-5B	7-8T	28
9		6-7B	9-10T	29

GROUP		SUB GRP	RS	RSA
╳	d-e		a-b-c	a-b-c
0	1-2B	0	5-6-4B	╳
		1	2-3-1B	
1	3-4B	2	2-3-1T	
		3	5-6-4T	
2	1-2T	4	8-9-7T	
		5	╳	2-3-1B
3	3-4T	6		5-6-4B
		7		2-3-1T
4	5-6T	8		5-6-4T
		9		8-9-7T

DISTRICT JUNCTOR CKT.	SD-25020-01	ISS. 29D
LINE LINK & CONTROLLER CKT.	SD-25553-01	ISS. 16B
SUB. SENDER LINK & CONTROLLER CKT.	SD-25554-01	ISS. 18D

SENDER LINK AND CONTROLLER CIRCUIT

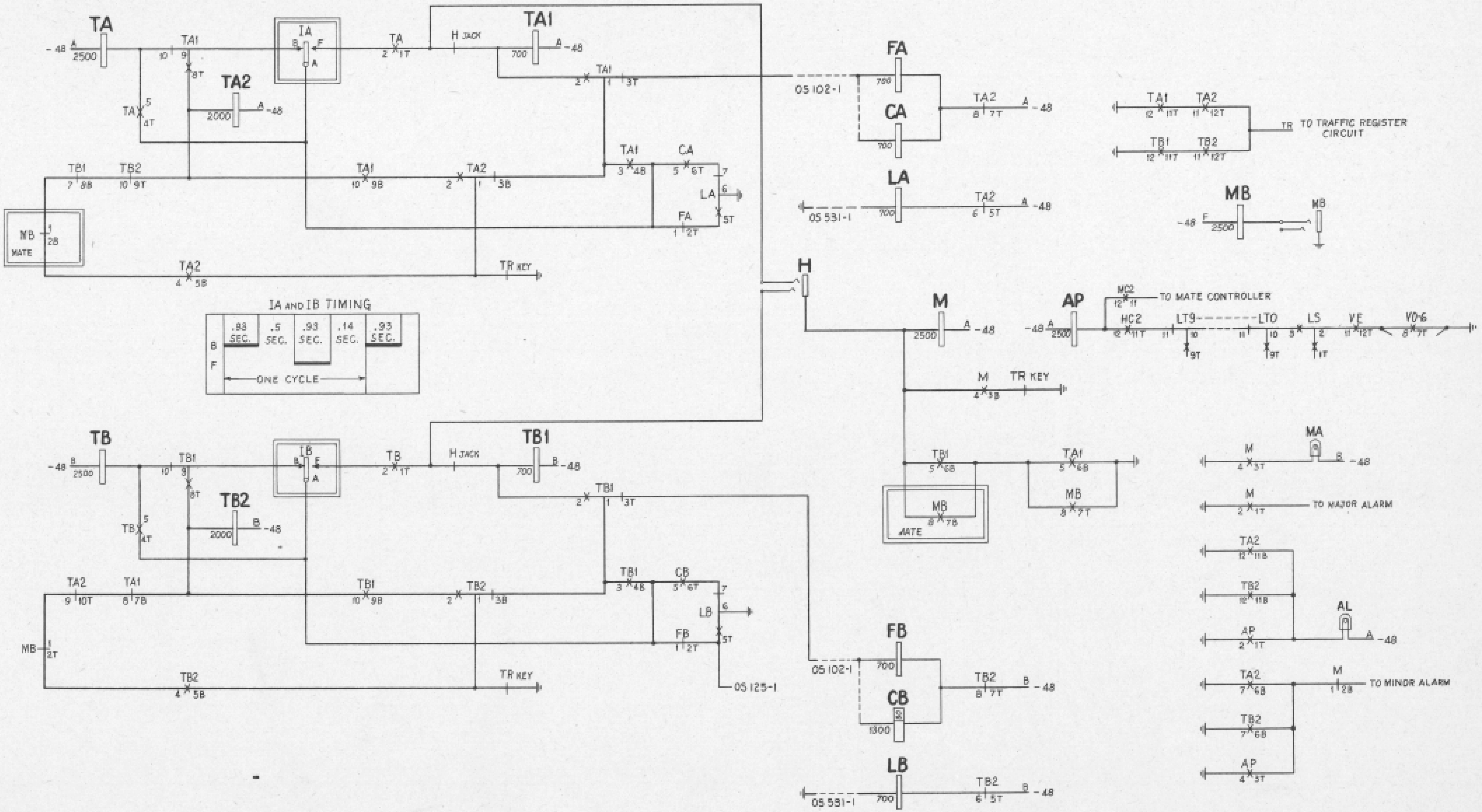
CHECKING DISTRICT JUNCTORS IDLE ONE, MORE THAN ONE OR NONE REGULAR OR RESERVE TEST

NO. 1 CROSSBAR OS-122-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4147



SUB. LINE, LINE LINK & CONTROLLER CKT SD-25553-01 ISS. 16B

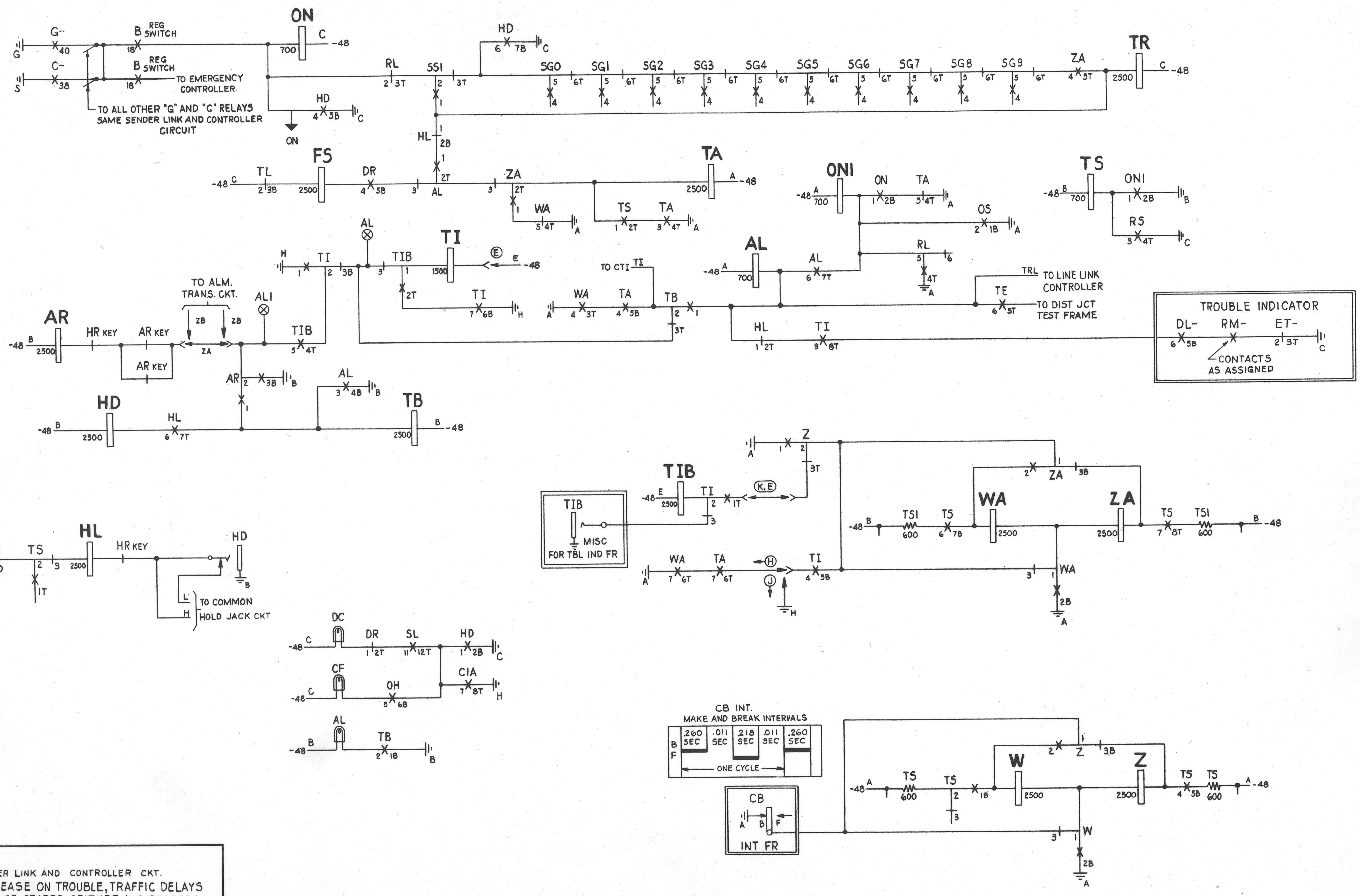
LINE LINK AND CONTROLLER
ALARM AND TRANSFER
TIMING CIRCUIT

NO. 1 CROSSBAR

OS-123-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.



SENDER LINK AND CONTROLLER CKT.
TIMED RELEASE ON TROUBLE, TRAFFIC DELAYS AND FALSE STARTS, SEIZURE AND RELEASE OF TROUBLE INDICATOR.

OS-124-1

4 SHEETS, SHEET 1

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

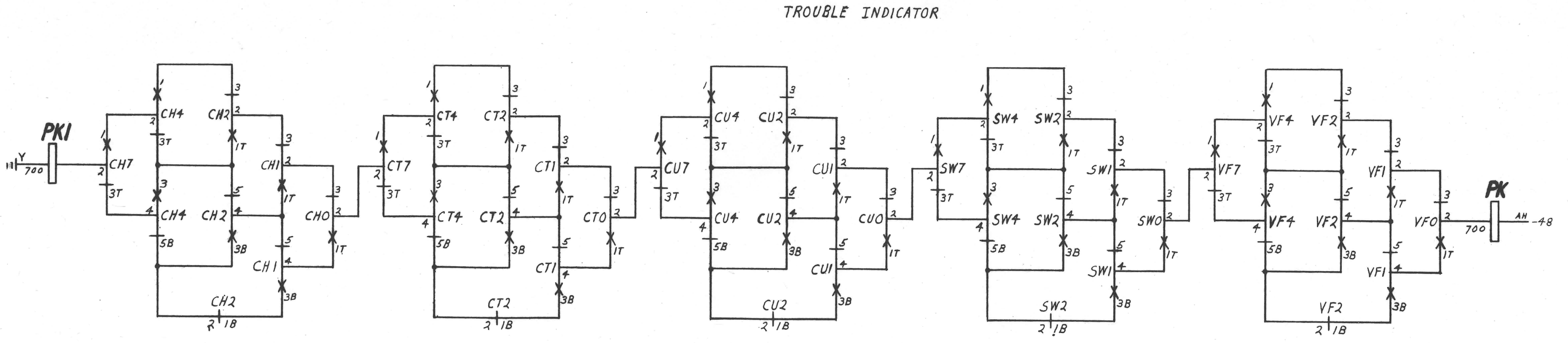
PRINTED IN U. S. A.

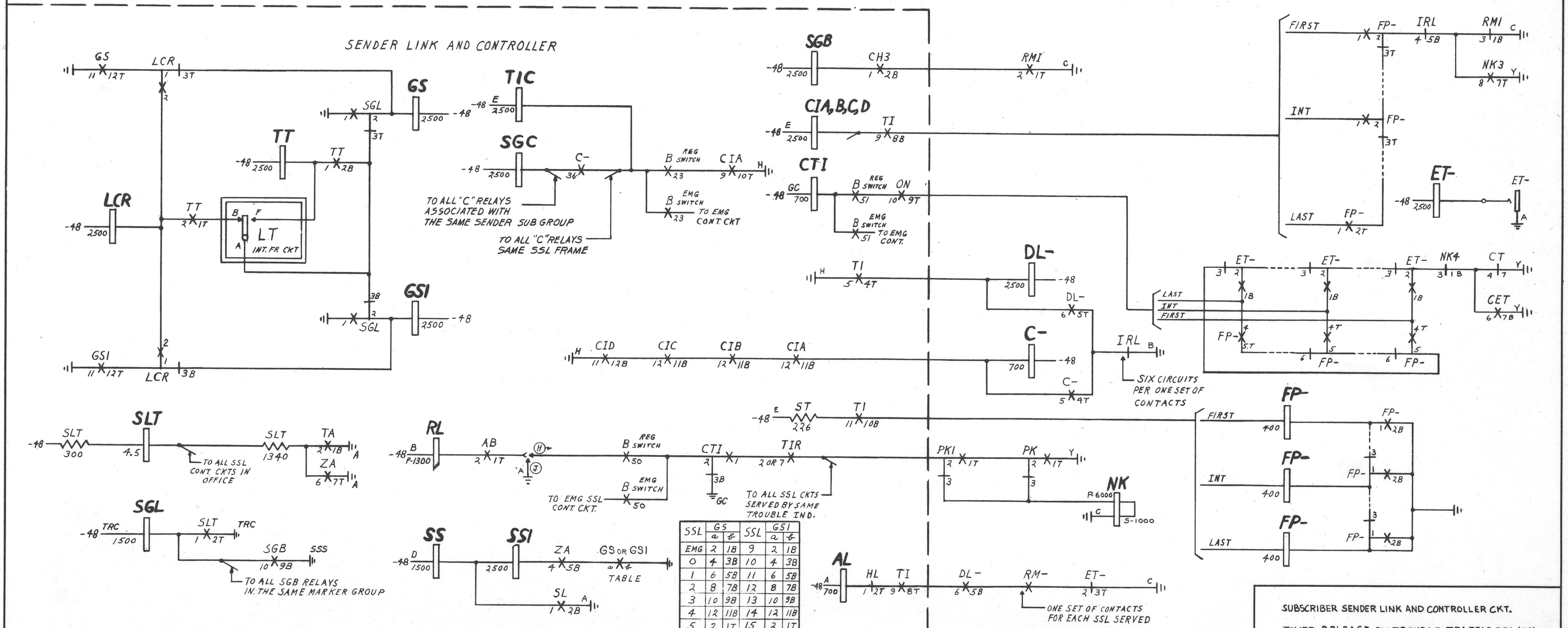
ISSUE	1
DATE	12/16/53

4 SHEETS, SHEET 1

38-Y-4125

ISSUE	1			
DATE	12/17/53			





SSL	GS		SSL	GSI	
	a	b		a	b
EMG	2	1B	9	2	1B
0	4	3B	10	4	3B
1	6	5B	11	6	5B
2	8	7B	12	8	7B
3	10	9B	13	10	9B
4	12	11B	14	12	11B
5	2	1T	15	2	1T
6	4	3T	16	4	3T
7	6	5T	17	6	5T
8	8	7T	18	8	7T
			19	10	9T

LINE LINK AND CONTROLLER CKT. SD25553-01 ISS. 16B
SUBSCRIBER SDR. LINK AND CONT. CKT. SD25554-01 ISS. 18D
CONTROLLER TROUBLE INDICATOR SD25452-01 ISS. 12D

SUBSCRIBER SENDER LINK AND CONTROLLER CKT.

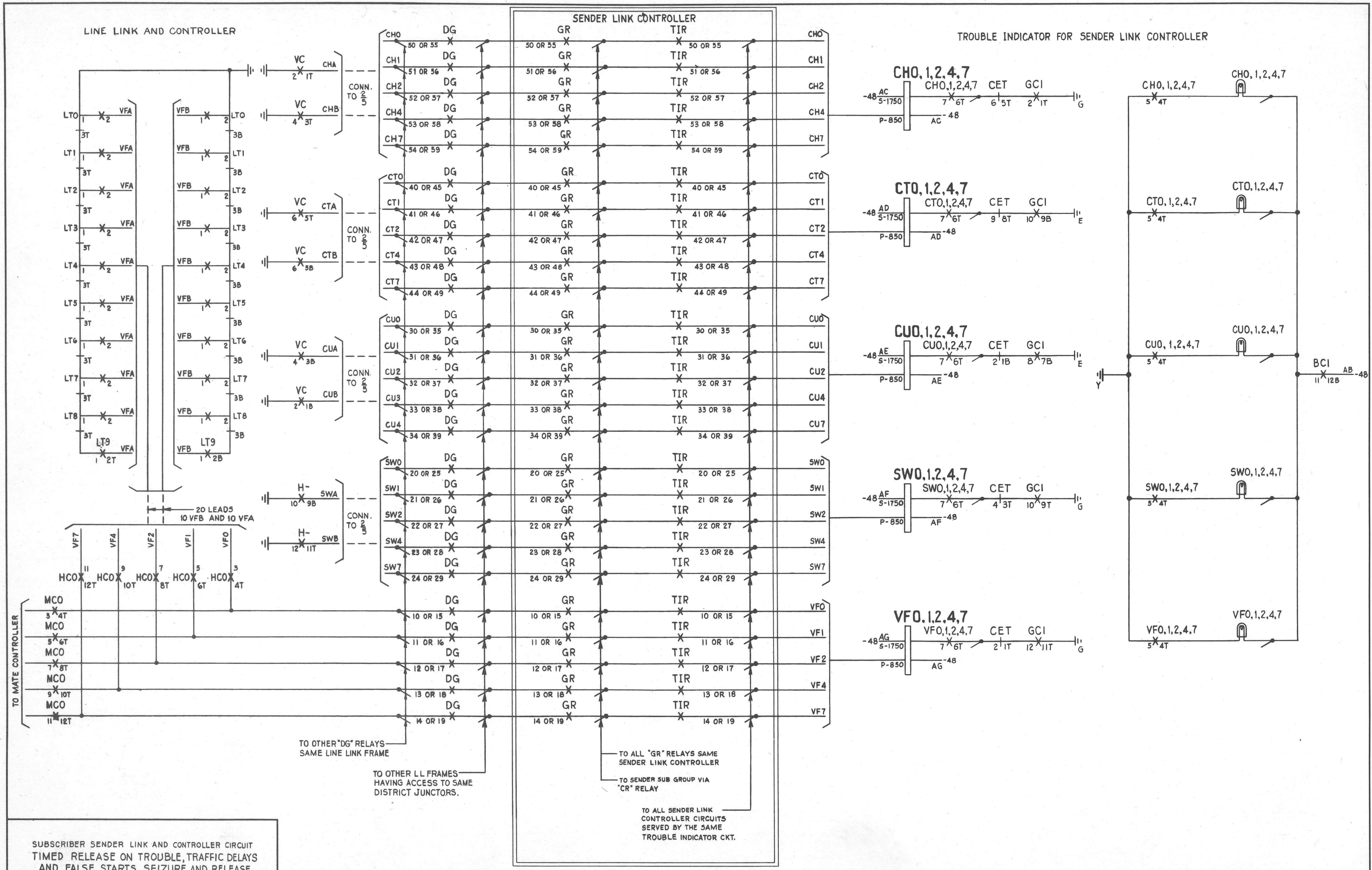
TIMED RELEASE ON TROUBLE, TRAFFIC DELAYS
AND FALSE STARTS, SEIZURE AND RELEASE
OF TROUBLE INDICATOR

AMERICAN TELEPHONE & TELEGRAPH CO.

NO. 1 CROSSBAR

OS 124-1

PRINTED IN U.S.A.



SUBSCRIBER SENDER LINK AND CONTROLLER CIRCUIT
TIMED RELEASE ON TROUBLE, TRAFFIC DELAYS
AND FALSE STARTS, SEIZURE AND RELEASE
OF TROUBLE INDICATOR

OS-124-1

4 SHEETS, SHEET 3

NO. 1 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

ISSUE	1
DATE	12/17/53

4 SHEETS, SHEET 3

38-Y-4125 4 SHEETS, SHEET 4

ISSUE	DATE
1	12/18/53

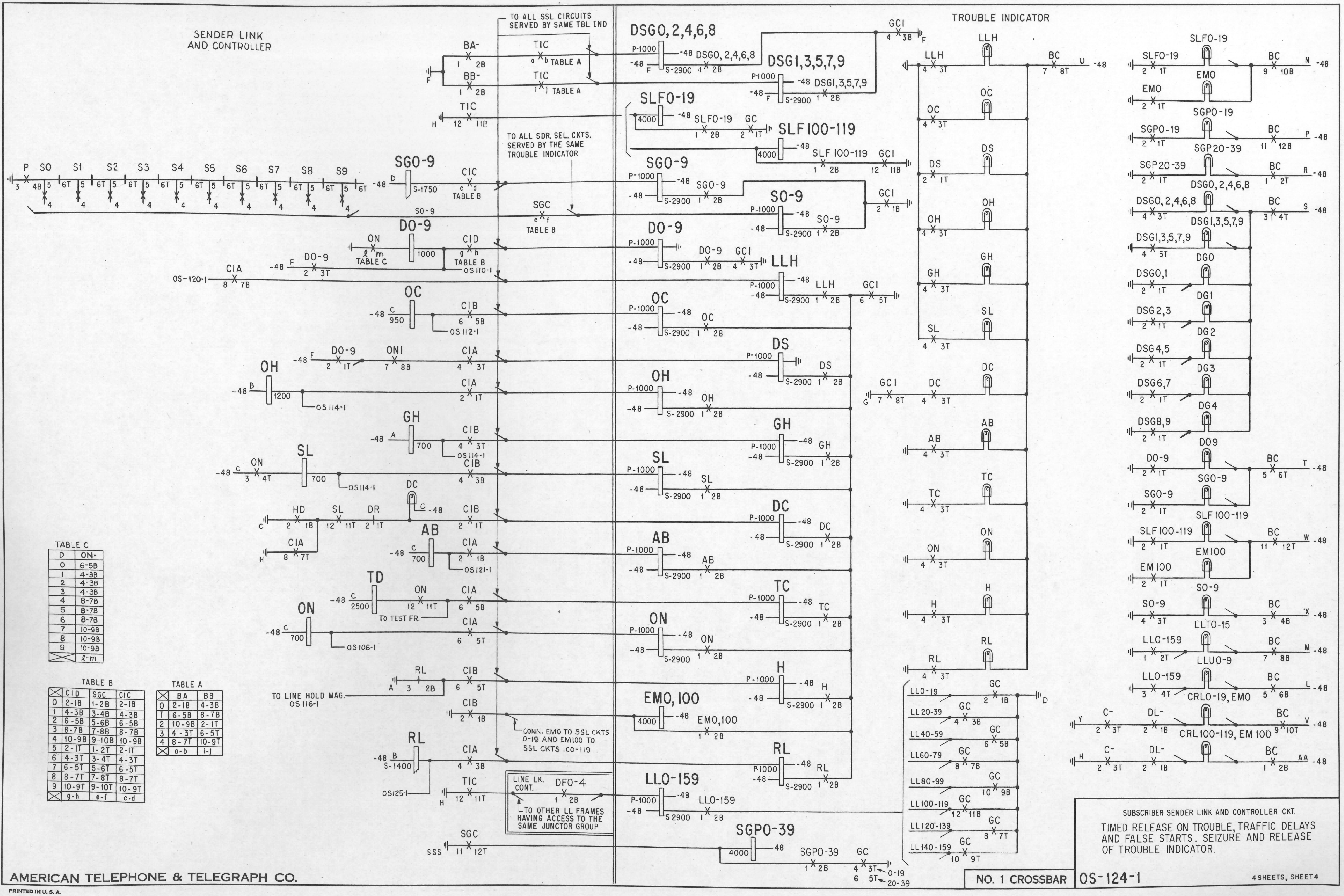


TABLE C

D	ON-
0	6-5B
1	4-3B
2	4-3B
3	4-3B
4	8-7B
5	8-7B
6	8-7B
7	10-9B
8	10-9B
9	10-9B
☒	ℓ-m

TABLE B

☒	CID	SGC	CIC
0	2-1B	1-2B	2-1B
1	4-3B	3-4B	4-3B
2	6-5B	5-6B	6-5B
3	8-7B	7-8B	8-7B
4	10-9B	9-10B	10-9B
5	2-1T	1-2T	2-1T
6	4-3T	3-4T	4-3T
7	6-5T	5-6T	6-5T
8	8-7T	7-8T	8-7T
9	10-9T	9-10T	10-9T
☒	g-h	e-f	c-d

TABLE A

☒	BA	BB
0	2-1B	4-3B
1	6-5B	8-7B
2	10-9B	2-1T
3	4-3T	6-5T
4	8-7T	10-9T
☒	a-b	i-j

SUBSCRIBER SENDER LINK AND CONTROLLER CKT.

TIMED RELEASE ON TROUBLE, TRAFFIC DELAYS AND FALSE STARTS. SEIZURE AND RELEASE OF TROUBLE INDICATOR.

NO. 1 CROSSBAR OS-124-1

4 SHEETS, SHEET 4

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.

38-Y-4217

ISSUE 1
DATE

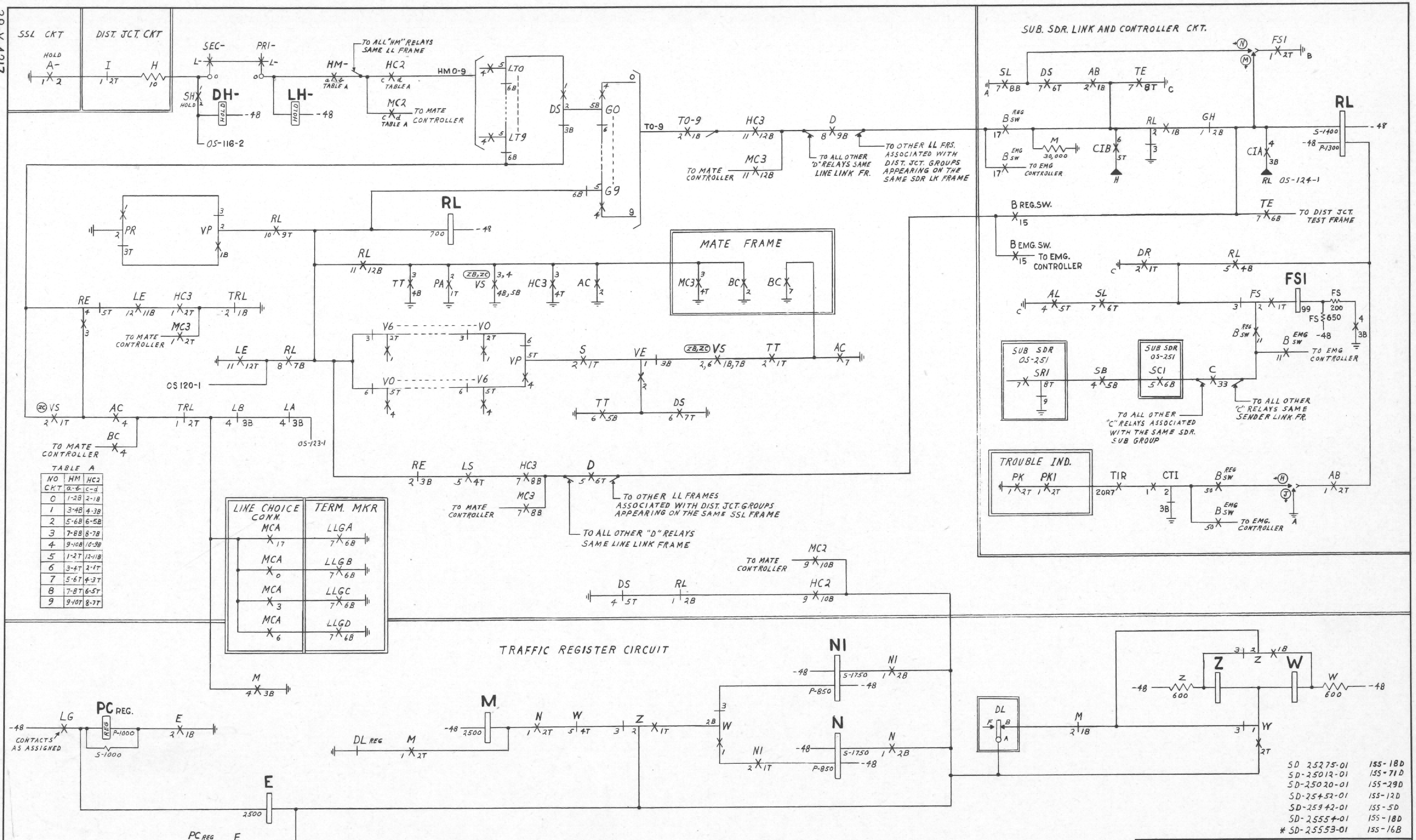


TABLE A

NO CKT	HM a-b	HC2 c-d
0	1-2B	2-1B
1	3-4B	4-3B
2	5-6B	6-5B
3	7-8B	8-7B
4	9-10B	10-9B
5	1-2T	12-11B
6	3-4T	2-1T
7	5-6T	4-3T
8	7-8T	6-5T
9	9-10T	8-7T

SD 25275-01	ISS-18D
SD-25012-01	ISS-71D
SD-25020-01	ISS-29D
SD-25452-01	ISS-12D
SD-25942-01	ISS-5D
SD-25554-01	ISS-18D
* SD-25553-01	ISS-16B

LINE LINK AND CONTROLLER CKT.

RELEASING LINE LINK AND SENDER LINK CONTROLLER CIRCUITS. TRAFFIC REGISTER OPERATION "DL" AND "PC" REGISTERS.

NO 1 CROSSBAR

OS-125-1

AMERICAN TELEPHONE & TELEGRAPH CO.

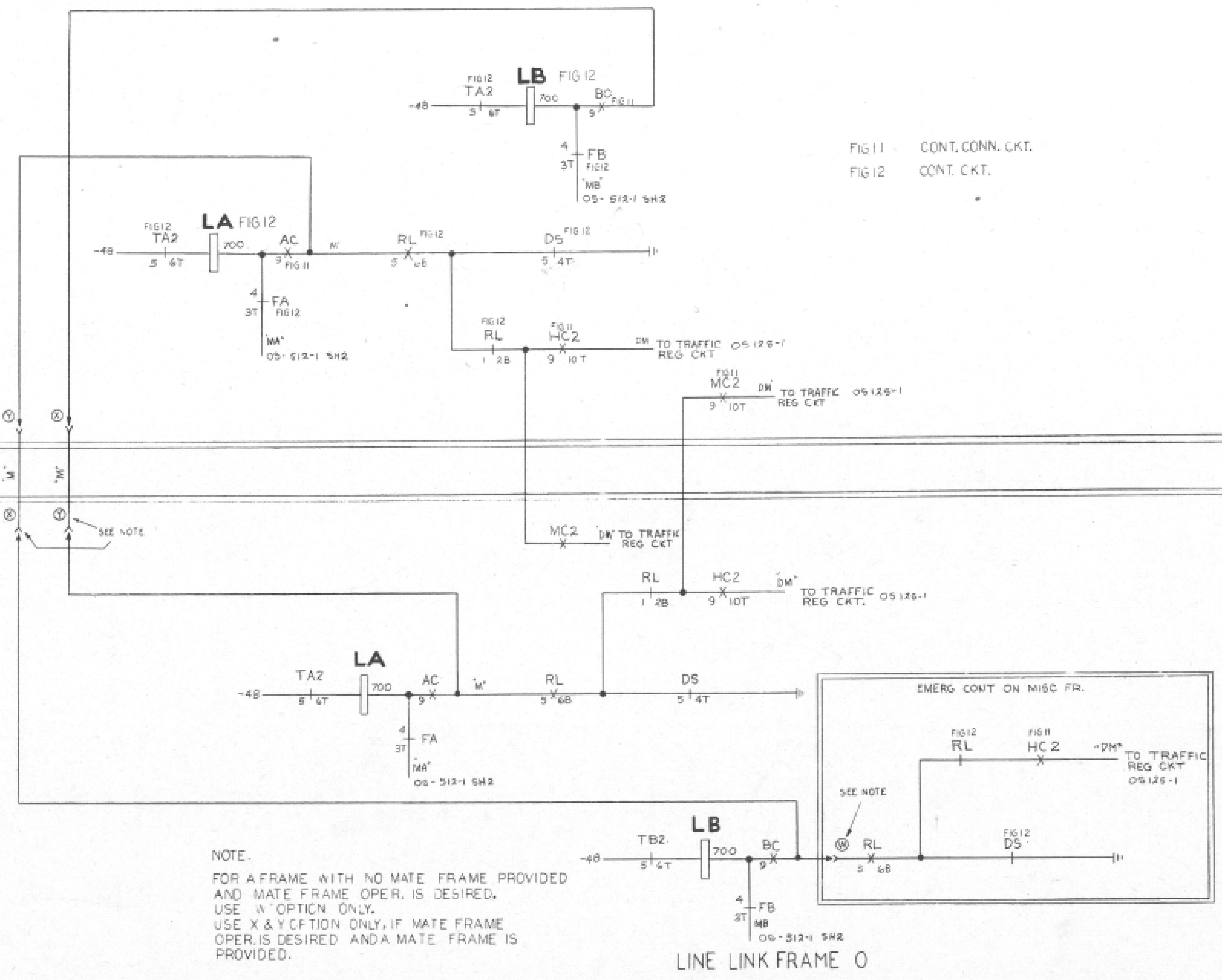
PRINTED IN U. S. A.

JR-Y-4248

ISSUE 1
DATE 2/26/59

LINE LINK FRAME 1

FIG 11 CONT. CONN. CKT.
FIG 12 CONT. CKT.



NOTE.

FOR A FRAME WITH NO MATE FRAME PROVIDED AND MATE FRAME OPER. IS DESIRED. USE "W" OPTION ONLY.
USE X & Y OPTION ONLY, IF MATE FRAME OPER. IS DESIRED AND A MATE FRAME IS PROVIDED.

LINE LINK FRAME 0

SUB LINE, L.L & CONT CKT SD 25553 01 ISS 16B

LINE LINK AND CONTROLLER

LA, LB OPERATE PATH
(MATE FRAME OPERATION)

1-CROSSBAR

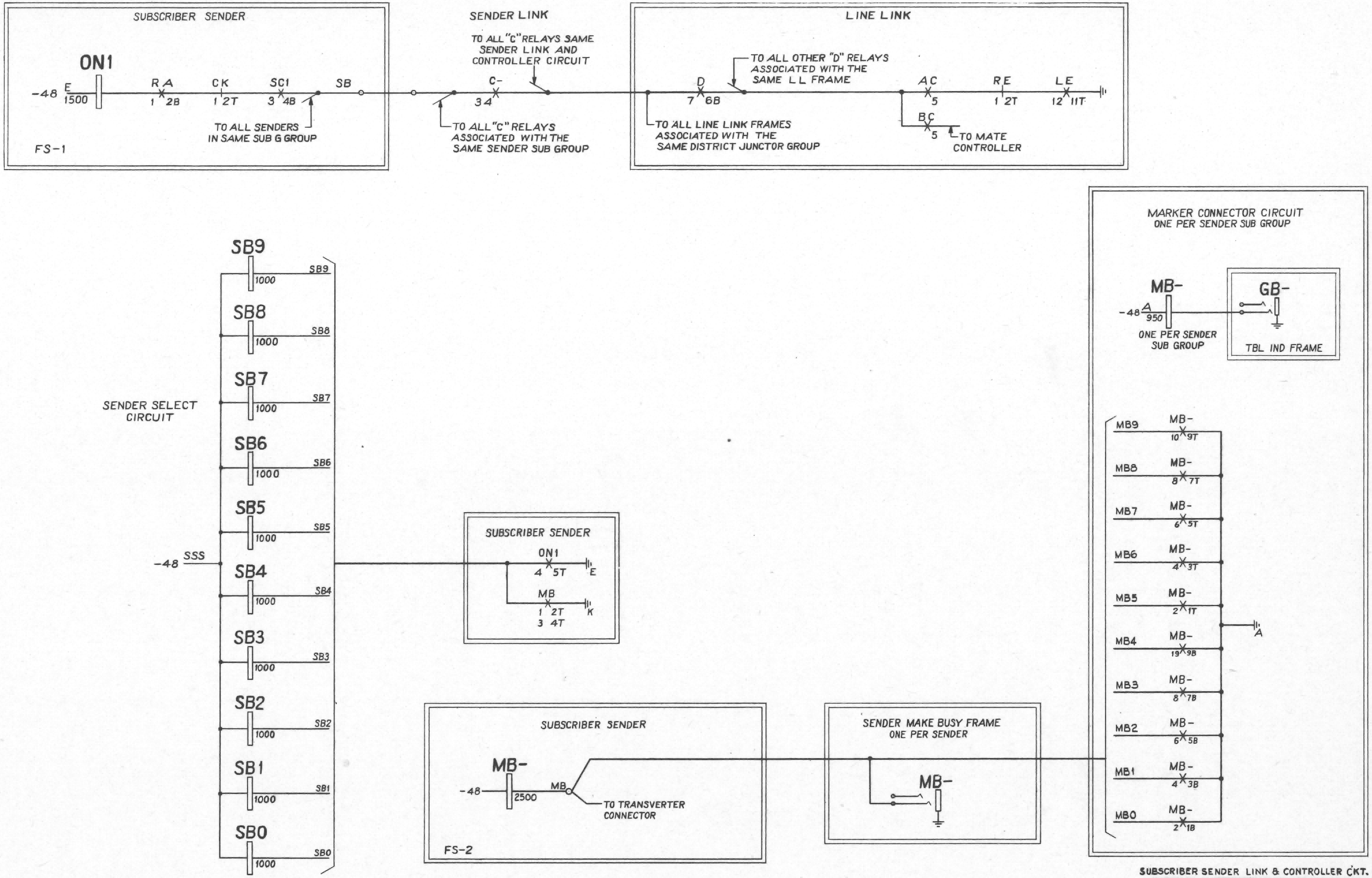
OS 125-2

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4146

ISSUE	1
DATE	12/16/53



SUBSCRIBER SENDER LINK & CONTROLLER CKT. SD-25554-01 ISS.18D

SUBSCRIBER SENDER LINK AND CONTROLLER
MAKING THE SENDER BUSY

AMERICAN TELEPHONE & TELEGRAPH CO.

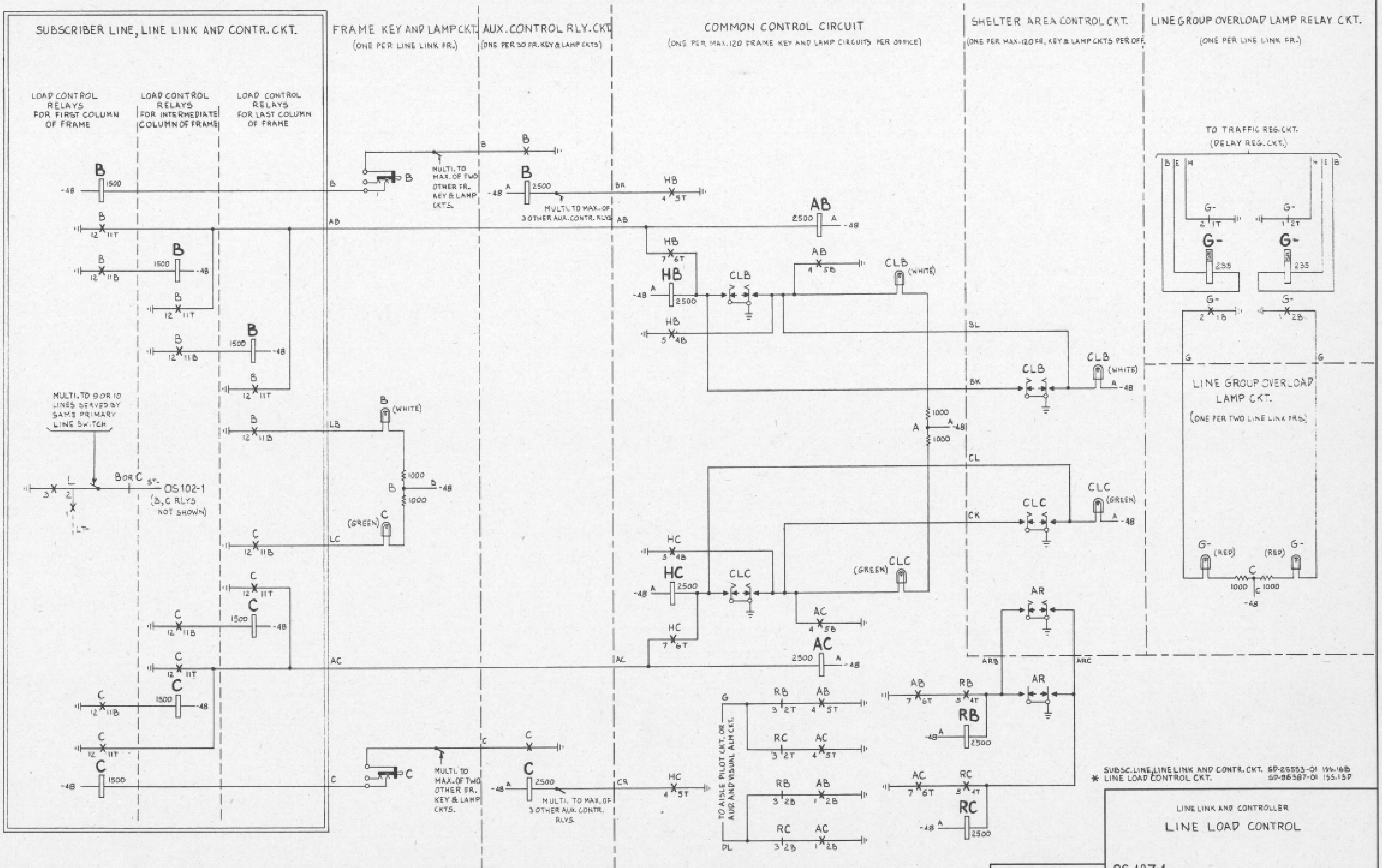
NO. 1 CROSSBAR

OS-126-1

PRINTED IN U.S.A.

38-Y-4250

ISSUE	DATE
1	2-15-54


SUBSCRIBER LINE, LINE LINK AND CONTR. CKT.
LOAD CONTROL RELAYS FOR FIRST COLUMN OF FRAME
LOAD CONTROL RELAYS FOR INTERMEDIATE COLUMN OF FRAME
LOAD CONTROL RELAYS FOR LAST COLUMN OF FRAME
FRAME KEY AND LAMP CKT.
(ONE PER LINE LINK FR.)
AUX. CONTROL RLY. CKT.
(ONE PER 30 FR. KEY & LAMP CKTS)
COMMON CONTROL CIRCUIT
(ONE PER MAX. 120 FRAME KEY AND LAMP CIRCUITS PER OFFICE)
SHELTER AREA CONTROL CKT.
(ONE PER MAX. 120 FR. KEY & LAMP CKTS PER OFF.)
LINE GROUP OVERLOAD LAMP RELAY CKT.
(ONE PER LINE LINK FR.)
TO TRAFFIC REG. CKT. (DELAY REG. CKT.)
LINE GROUP OVERLOAD LAMP CKT.
(ONE PER TWO LINE LINK FRS.)
MULTI. TO 9 OR 10 LINES SERVED BY SAME PRIMARY LINE SWITCH
B OR C
OS 102-1
(B, C RLYS NOT SHOWN)
LT
MULTI. TO MAX. OF TWO OTHER FR. KEY & LAMP CKTS.
MULTI. TO MAX. OF 3 OTHER AUX. CONTR. RLYS.
B
C
AB
AC
HB
HC
CLB
CLC
RB
RC
AR
G-
1500
2500
235
1000
-48
(WHITE)
(GREEN)
(RED)
LB
LC
BR
CR
BL
BK
CL
CK
ARB
ARC
G
PL
TO AISLE PILOT CKT. OR AUD. AND VISUAL ALM CKT.

SUBSC. LINE, LINE LINK AND CONTR. CKT. SD-25553-01 ISS. 16B
* LINE LOAD CONTROL CKT. SD-96587-01 ISS. 13D

LINE LINK AND CONTROLLER

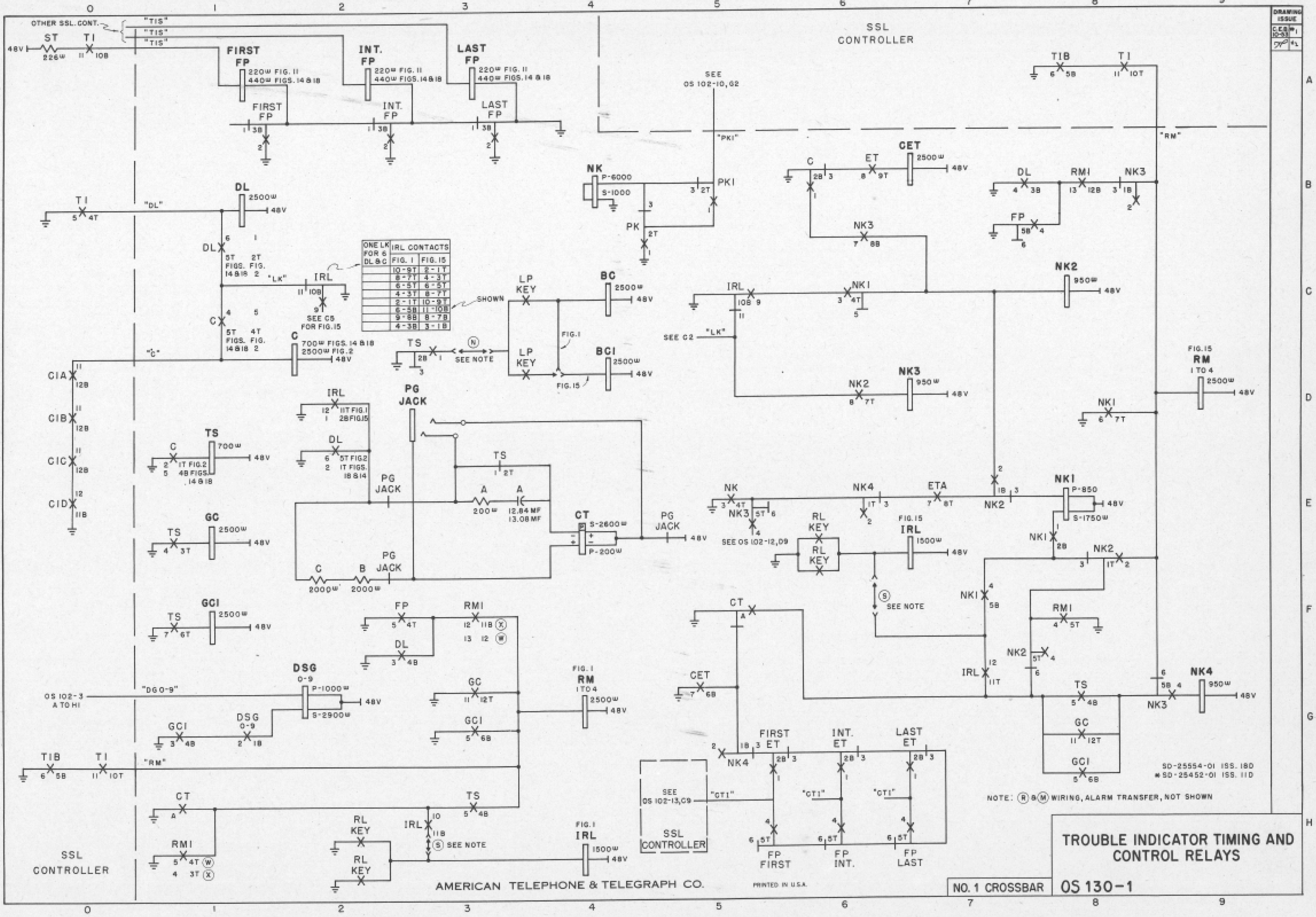
LINE LOAD CONTROL

NO. 1 CROSSBAR

OS 127-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U. S. A.



ONE LK FOR 6 DL & C	IRL CONTACTS	
	FIG. 1	FIG. 15
	10 - 9T	2 - 1T
	8 - 7T	4 - 3T
	6 - 5T	6 - 5T
	4 - 3T	8 - 7T
	2 - 1T	10 - 9T
	6 - 5B	11 - 10B
	9 - 8B	8 - 7B
	4 - 3B	3 - 1B

SD-25554-01 ISS. 18D
*SD-25452-01 ISS. 11D

NOTE: Ⓡ & Ⓜ WIRING, ALARM TRANSFER, NOT SHOWN

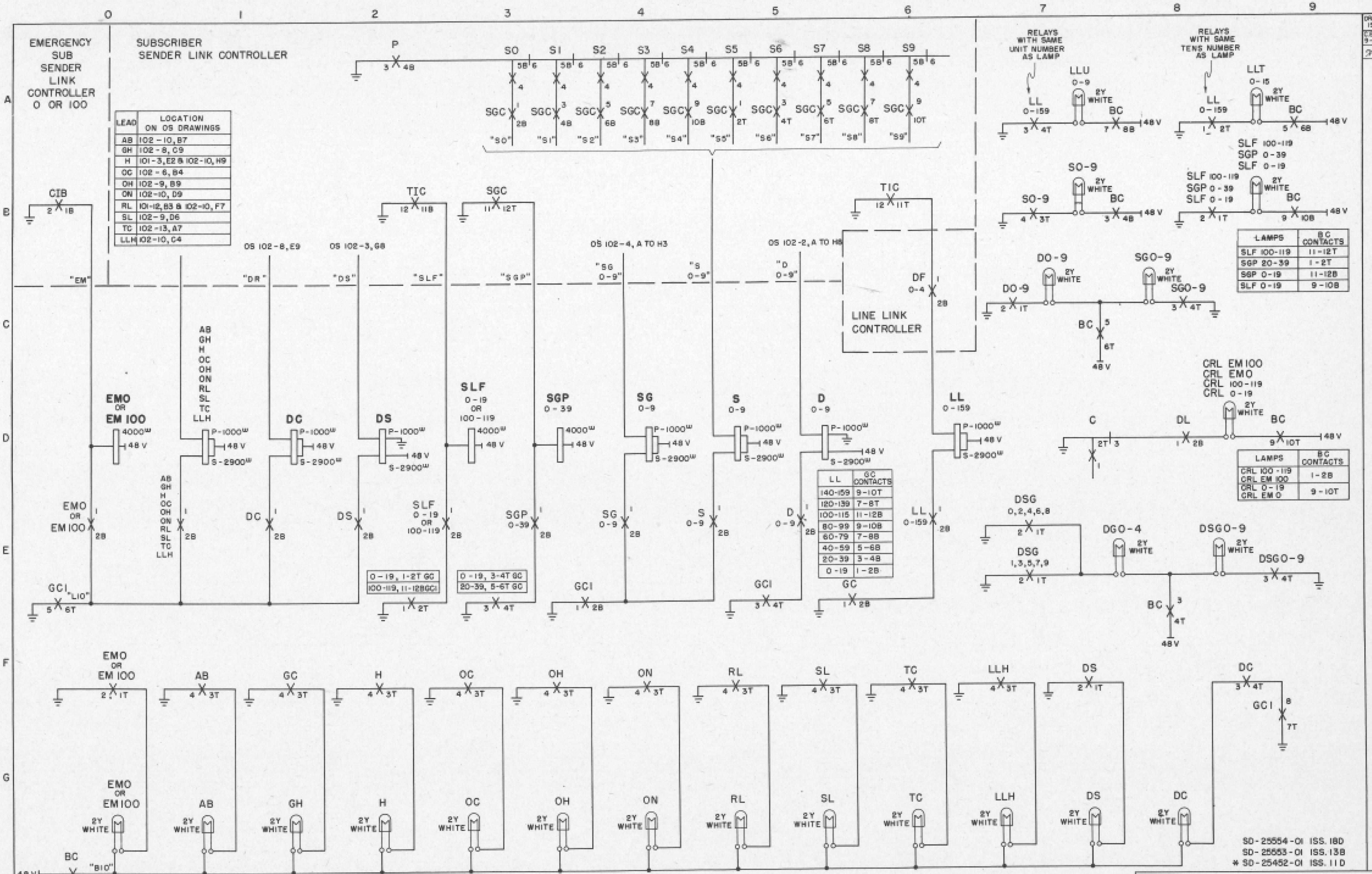
AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

TROUBLE INDICATOR TIMING AND CONTROL RELAYS

NO. 1 CROSSBAR

OS 130-1



LEAD	LOCATION ON OS DRAWINGS
AB	102-10, B7
GH	102-8, C9
H	101-3, E2 & 102-10, H9
OC	102-6, B4
OH	102-9, B9
ON	102-10, D9
RL	101-12, B3 & 102-10, F7
SL	102-9, D6
TC	102-13, A7
LLH	102-10, C4

LL	GC CONTACTS
140-159	9-10T
120-139	7-8T
100-115	11-12B
80-99	9-10B
60-79	7-8B
40-59	5-6B
20-39	3-4B
0-19	1-2B

LAMPS	BC CONTACTS
SLF 100-119	11-12T
SGP 20-39	1-2T
SGP 0-19	11-12B
SLF 0-19	9-10B

LAMPS	BC CONTACTS
CRL 100-119 CRL EM 100	1-2B
CRL 0-19 CRL EMO	9-10T

SD-25554-01 ISS. 18D
SD-25553-01 ISS. 13B
* SD-25452-01 ISS. 11D

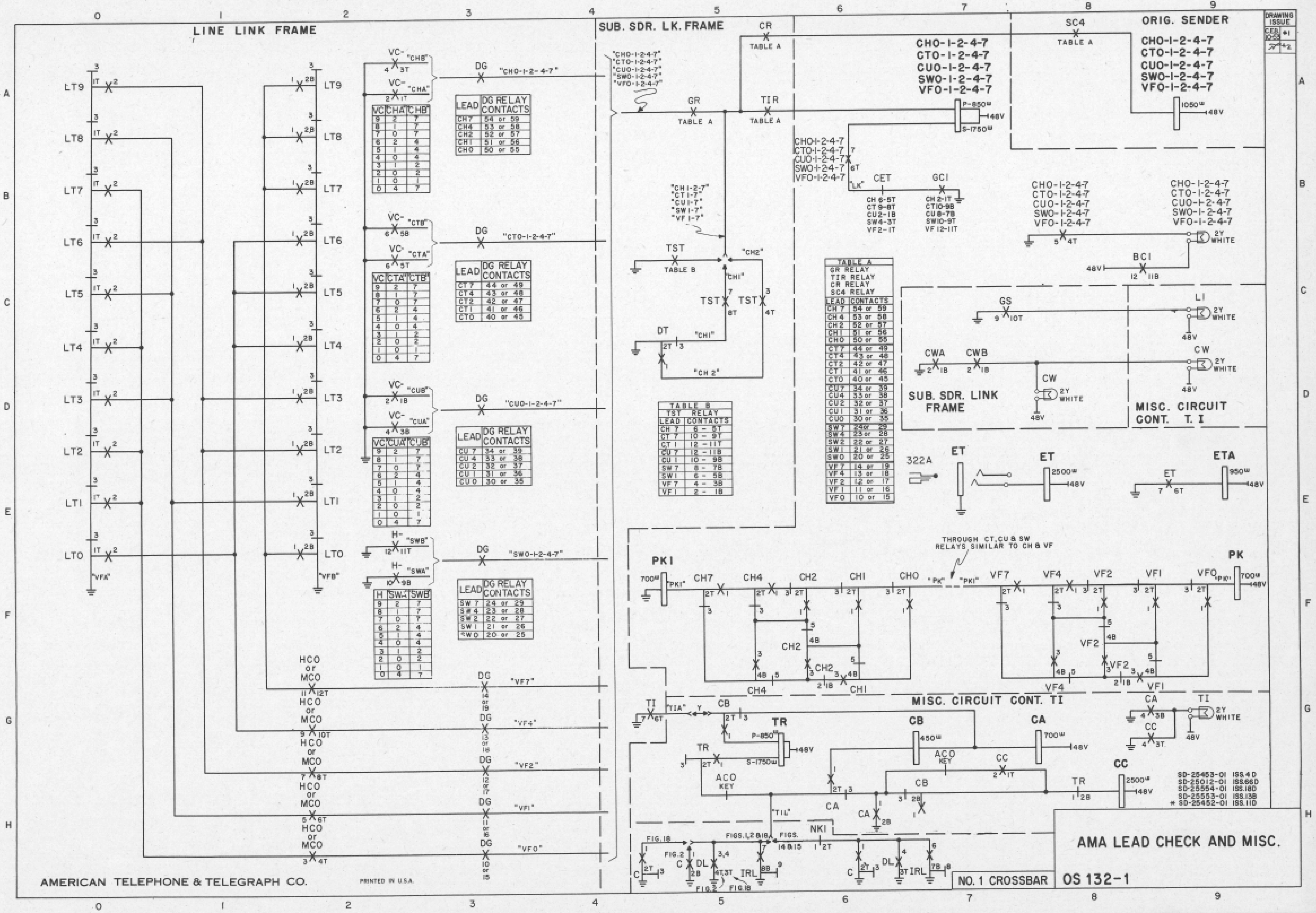
INDICATING LAMPS & RELAYS

NO. 1 CROSSBAR

OS 131-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.



VC	CHA	CHB
9	2	7
8	1	7
7	0	7
6	2	4
5	1	4
4	0	4
3	1	2
2	0	2
1	0	1
0	4	7

LEAD	DG RELAY CONTACTS
CH7	54 or 59
CH4	53 or 58
CH2	52 or 57
CH1	51 or 56
CH0	50 or 55

VC	"CTA"	"CTB"
9	2	7
8	1	7
7	0	7
6	2	4
5	1	4
4	0	4
3	1	2
2	0	2
1	0	1
0	4	7

LEAD	DG RELAY CONTACTS
CT 7	44 or 49
CT 4	43 or 48
CT 2	42 or 47
CT 1	41 or 46
CTO	40 or 45

VC	"CUA"	"CUB"
9	2	7
8	1	7
7	0	7
6	2	4
5	1	4
4	0	4
3	1	2
2	0	2
1	0	1
0	4	7

LEAD	DG RELAY CONTACTS
CU 7	34 or 39
CU 4	33 or 38
CU 2	32 or 37
CU 1	31 or 36
CU 0	30 or 35

H	SWA	SWB
9	2	7
8	1	7
7	0	7
6	2	4
5	1	4
4	0	4
3	1	2
2	0	2
1	0	1
0	4	7

LEAD	DG RELAY CONTACTS
SW 7	24 or 29
SW 4	23 or 28
SW 2	22 or 27
SW 1	21 or 26
SW 0	20 or 25

TABLE A
GR RELAY
TIR RELAY
CR RELAY
SC4 RELAY

LEAD	CONTACTS
CH 7	54 or 59
CH 4	53 or 58
CH 2	52 or 57
CH 1	51 or 56
CHO	50 or 55
CT7	44 or 49
CT4	43 or 48
CT2	42 or 47
CT1	41 or 46
CTO	40 or 45
CU7	34 or 39
CU4	33 or 38
CU2	32 or 37
CU1	31 or 36
CUO	30 or 35
SW7	24 or 29
SW4	23 or 28
SW2	22 or 27
SW1	21 or 26
SWO	20 or 25
VF 7	14 or 19
VF 4	13 or 18
VF 2	12 or 17
VF 1	11 or 16
VFO	10 or 15

TABLE B
TST RELAY

LEAD	CONTACTS
CH 7	6 - 5T
CT 7	10 - 9T
CT 1	12 - 11T
CU 7	12 - 11B
CU 1	10 - 9B
SW 7	8 - 7B
SW 1	6 - 5B
VF 7	4 - 3B
VF 1	2 - 1B

SD-25453-01 ISS.4D
SD-25012-01 ISS.66D
SD-25554-01 ISS.18D
SD-25553-01 ISS.13B
* SD-25452-01 ISS.11D

DRAWING ISSUE
CFB 10-53 | #1

AMA LEAD CHECK AND MISC.

NO. 1 CROSSBAR

OS 132-1

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.